THE IRON AGE

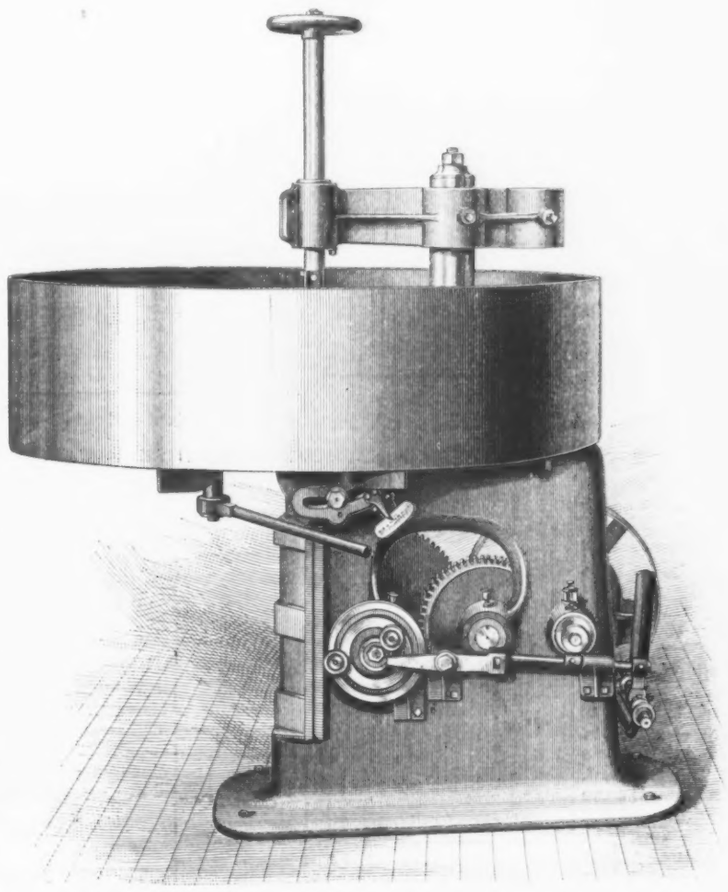
THURSDAY, OCTOBER 6, 1892.

The Colburn Slottting Machine or Key Seater.

Baker Brothers of Toledo, Ohio, have had in use in their works for some time past, doing all their key seating, slotting, &c., a machine which is the invention of L. H. Colburn, the superintendent, through whose courtesy we are enabled to present the following description of its principal characteristics. The engraving on this page represents the machine when employed in cutting the key seats in large pulleys, and shows very clearly the manner of supporting the outer guide bar when in this position. The drawings on the following pages give a clear idea of the general arrangement of the main parts. The arm J, column K and standard L constitute the frame work of the machine. The lower guide bar Q has a vertical movement in a bearing made V-shaped in front of the standard, as shown in Fig. 6. The bearing being V-shaped, the wear is readily taken up by tightening the screws on the cap R. The lower guide bar is actuated by a train of gearing, as indicated in Fig. 6. The shaft S, journaled in the bearings M and M′, carries on its outer left-hand end a set of friction pulleys T, T′ and T″. By means of an open and a crossed belt, a mechanism described below, a rotary motion is given to this shaft in either direction. On the shaft S is keyed a pinion, U, the teeth of which engage with the large gear V, keyed to the shaft W, journaled in the bearings N and N′. To the outer left-hand end of the shaft W is keyed another pinion, X, which engages with the large gear Y, keyed to the shaft Z, journaled in the bearings O and O′. To this shaft Z is keyed another pinion, *a*, the teeth of which engage with the teeth in the rack of the lower guide bar Q. Thus it is obvious that a large amount of power may be readily transmitted to the guide bar Q.

On the front end of the arm J is an adjustable bearing, into which the upper guide bar *b* is fitted. At the upper extremity of this guide bar is a hand wheel, C. At its lower extremity this bar is bored and threaded, as shown at Fig. 4. A bar, *e*, carrying a suitable cutter, *f*, having at its upper extremity a thread, is adapted to fit into the opening *d*. The lower end of the bar is fitted to the upper end of the lower guide bar, thus bringing shaft *b*, cutter bar *e* and lower guide bar Q into line with each other.

The cutter bar is secured to the lower guide bar in the following manner: The guide bar has a projection in which a hole is bored, whose axis is exactly in line with the center of the V-shaped bearing in the standard L and the center of the bearing A′ in the arm J. The lower end of the cutter bar is fitted to this bore in the lower guide bar, and a slot cut through both parts thus fitted together. A key is fitted into this slot, being prevented from jarring loose by means of a set screw. The thrust upward and the pull of the cut downward can be carried now, and the cutter bar *e* cannot be disconnected until the key has been withdrawn.



THE COLBURN SLOTTING MACHINE OR KEY SEATER.

The two upper outwardly projecting sides K′ and K″ of the standard L, Figs. 2, 3 and 4, are accurately bored as a bearing for the rockers I and I′. These rockers are segments of a circle whose vertical center lies in the plane of the top of the table *k* and in line with the vertical center of the cutter bar *e*. These rockers are attached by suitable means to the slide *l*. To this slide is fitted the table *k*, which is adapted to slide in a direction corresponding to either of the arrows *m* or *m′*, Fig. 2. The mechanism for accomplishing this purpose and for regulating the amount of movement to be given the table is as follows: To the under side of the table *k* is fastened the rack *n*, Figs. 5 and 7. To a projection, *l′*, of the slide *l* is fastened a stud, *o*, having at its upper extremity and securely fastened to it a pinion, *n′*, engaging with the teeth of the rack *n*. At the lower extremity of the stud *o* is a polygonal head, *o′*. A wrench, *p*, adapted to fit the head *o′*, having a rather long handle, is passed over the head of the stud *o*, and the lower cap or flange *o″* secured to the head *o*, thus preventing the wrench *p* from falling off. Having drawn the wrench into the position shown in Fig. 5, and thrusting it back in the direction of the arrow *q* to the position shown by the dotted lines, Fig. 5, and dropping it on the head *o′* again, it is now ready to be again drawn forward to its former position.

It is obvious that the stud, moving in a rigid bearing in a projection of the slide *l*, having firmly secured to it a pinion whose teeth engage with the rack, having motion given to it by means of the wrench, will, through the mechanism described, convert motion to the table to which the material is secured. The material to be operated upon being fastened to the table by suitable means, the machine is put in motion. By moving the handle of the wrench *d* toward the front of the machine the work is brought in contact with the cutter in the vertically moving bar *e*. On the projection *l′* of the slide *l* are two lugs, *r* and *r′*. On the front of the table are two ears, *s* and *s′*, either a part of the table or fastened to it. A screw, *t*, is threaded into ear *s* in line with the lug *r*. The depth of the cut to be taken at each stroke is gauged by turning the screw *t* outwardly away from the lug *r*, the distance from the lug *r* to the end of the screw at *r″* being the depth of the cut. Another screw, *t′*, is threaded into the ear *s′* and projects through the lug *r′* on the projection *o* of the slide *l*. Firmly fastened to the ear *s* is a graduated plate, *s″*. Into the recess of the plate *s″* is fitted a sleeve, *t″*, held in position by a flange at its inner end. The sleeve *t″* is fastened to the screw *t′* by means of a key, *u*, fitted loosely in the shaft and tightly in the sleeve. To the part of the sleeve *t″* extending outside of the plate *s″* is fitted a pointer or index finger, *v*, adapted to be clamped in position on sleeve *t″* by means of a screw, *v′*. To regulate the depth of the slot to be cut in the work, the screw *t′* is first screwed in until its end contacts with the lug *r′*, the work on the table having first been brought in contact with the cutter *f* in the cutter bar *e*. The index finger *v* is then turned around on the shaft *t″* to the zero mark on the graduated plate *s″* and clamped in position by means of the screw *v′*. The screw *t′* is then turned outwardly the requisite number of turns, each

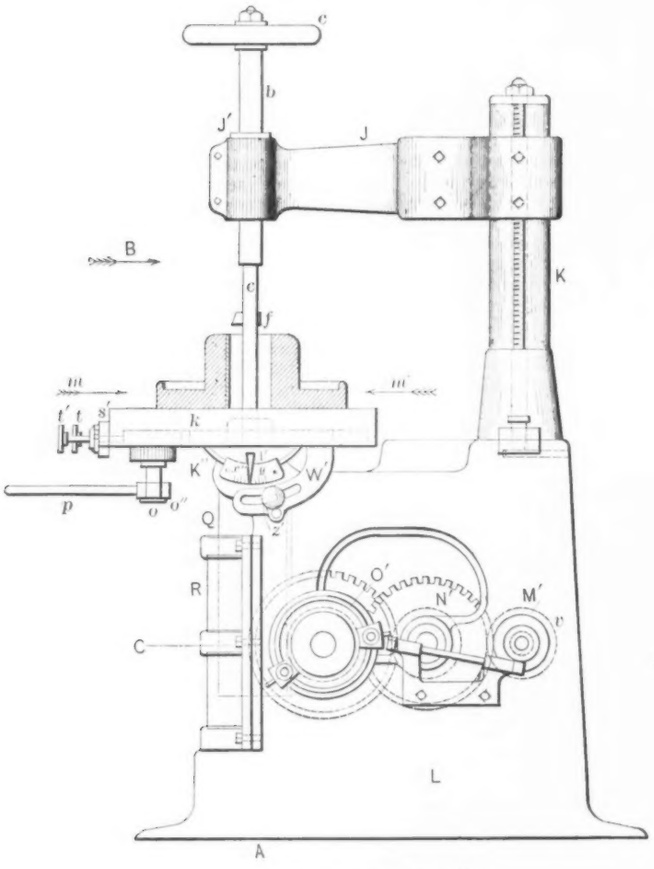


Fig. 2.—Side Elevation.

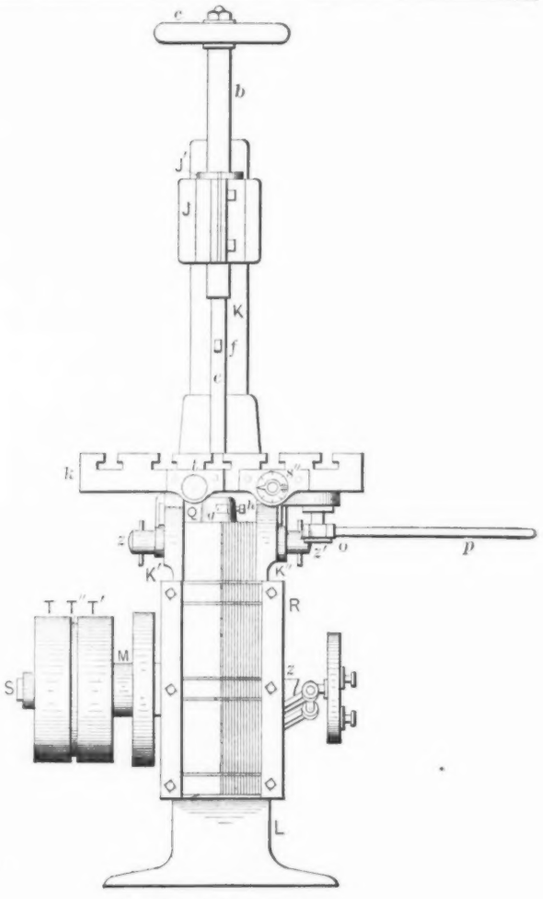


Fig. 3.—Front Elevation.

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turn corresponding to a fraction of an inch and being indicated by the index finger on the graduated plate. The screw is then allowed to remain in its position, the work being fed in at each stroke by the other screw *t* until the end of the screw *t'* again contacts with the lug *r'*, when the slot has been cut its required depth.

To the under part of the slide *l*, at both sides, are fastened the quadrants *w* and *w'*, Fig. 7. Two ears, *x* and *x'*, fastened to the standard L, overlap flanges on the rockers I and I', thus holding them firmly to their bearings in the standard. By means of this mechanism the table can be tilted in either direction. The amount of slant or the degree of the taper to be cut can be determined by the pointer secured to the rocker I', and moving over the graduated arc on X'. The desired angle being obtained, the table is held in position by clamping the quadrants to the standard by means of the screws *z* and *z'*. When it is desired to quickly bring the table from a tilted to a horizonal position, the screws *z* and *z'* are loosened and the table allowed to move in its bearings K' and K'' until a pin can be inserted into its bearing.

Provision is made when the diameter of the work is such that the rim or spokes would come in contact with the column K to overcome this difficulty. The column is fastened to the standard L by means of a bolt passing through its entire length into a T-slot in the standard, and tightened at the top by means of a nut. The arm J has two bearings adapted to fit the outside of the column and to be vertically adjustable for different lengths of work and varying lengths of movements, the latter conforming with the movements of the lower guide bar. The key shown in Fig. 8, near M', serves the purpose of keeping the bearing J' in line with the cutter bar and the lower guide bar. When large work

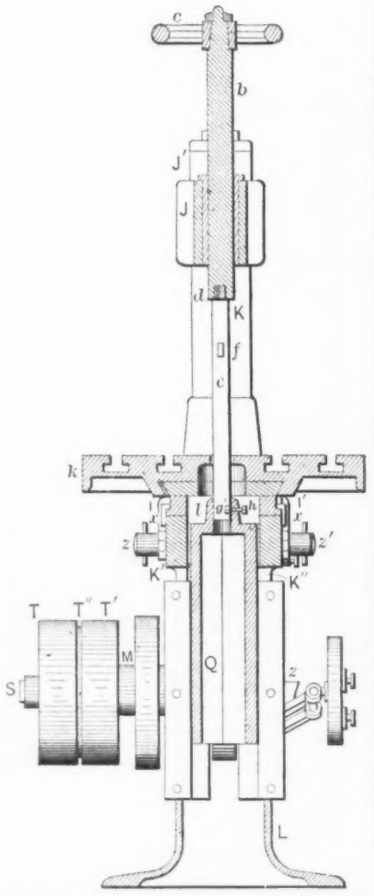


Fig. 4.—Vertical Section on Line A of Fig. 2.

is to be slotted it is placed in its furthest position from the cutter bar. Provision is made for the proper alignment of the bearing J' in the new position of the column. Pulleys of any diameter can be slotted, and the slot cut in line with one of its spokes or in any other position desired, and with the two combinations contact of the column K with either the rim or spokes is avoided. The reversing device consists of a double screw lever clutch pulley. The machine is built by Baker Brothers, successors to Herbert Baker Foundry & Machine Works, Toledo, Ohio.

Making Great Guns.

The great 13-inch steel gun at the Washington Navy Yard, now nearing completion, will be the largest ever made in this country by the built-up process. Fifteen-inch guns were made during the war of cast iron, but they were smooth bores. The total length of this piece of ordnance is nearly 40 feet, its diameter at the breech is 1 inch more than 4 feet and it tapers to a thickness of 21 inches at the muzzle. When finished the gun will weigh nearly 158,000 pounds. It requires more than ½ ton of powder to load this rifle for one discharge, but that quantity is expected to hurl an 1100-pound shell as tall as a good-sized boy a distance of 12 or 13 miles at the extraordinary velocity of 2100 feet per second. Close at hand this shot would penetrate 26⅜ inches of solid steel, and at a distance of 1½ miles from the gun (which is about as far as such guns can be sighted and fired with accuracy in marine warfare) the shot would still have vitality sufficient to smash the sides of a ship covered with 21½ inch steel armor. Very few such ships are afloat. This is the first of 12 such guns that are intended for the new battle ships, and with three others

will find a place in the turrets of the "Oregon," now building on the Pacific Coast. When finished its construction will have occupied six months, but better time can be made with the other guns of this caliber.

Another Chicago Steel Vessel.

The contract by which the Chicago Shipbuilding Company will build a magnificent steel passenger steamer for the Lake Michigan and Lake Superior Transportation Company was signed last week. Work will begin at the Calumet Shipyard immediately on the new boat. Its cost is to exceed $300,000, and it is to be ready for service on June 1, 1893. The dimensions of the steamer will be 275 feet keel, 295 feet over all, 42 feet beam, and 24½ feet deep from spar deck, and 32 feet from hurricane deck.

In the arrangement of cabin and staterooms the greatest innovation on accepted models for lake passenger boats will be made. The main cabin extends from the stern about two-thirds the length of the boat. It will be lined on either side with a double tier of staterooms, entrance to which will be from passageways opening into the main cabin. The outer row of cabins will be flush with the side of the boat, there being no promenade on the main deck, as is usual on lake steamers. A stairway leads from the main saloon to the hurricane deck, opening into a wide passageway extending the length of the deck; staterooms will be located on both sides of this passageway. Forward of the staterooms will be the smoking room. Out on the hurricane deck, on either side of the staterooms, will be a promenade 13½ feet wide and about 275 feet long. This will be covered with awnings. The dining room, forward of the main cabin, will extend the full width of the ship and will be about 50 feet long.

Hardwood finishing will be used throughout the steamer. The main saloon will be in mahogany and the dining room in birch. The ship will be lighted throughout with electricity. The steamer will have seven water-tight bulkheads. Bunkers for 250 tons of fuel will be provided. The boat will have stateroom accommodations for 400 passengers, and will also carry 1500 tons of freight. In general outline the boat will be unlike anything now afloat on the lakes, and will be guaranteed to make 17 miles an hour.

When the steamer leaves the shipyard next June it will go directly on the run between Chicago, Mackinac Island and Sault Ste. Marie, in connection with the other steamers of the Lake Superior line. It is expected to make two round trips a week.

This contract, in connection with others previously made, insures a busy winter at the Calumet yard.

The military cost of the recent riots is approximately known. The bill against Erie County, N. Y., is estimated at $225,000. The Adjutant-General of Pennsylvania says the trouble at Homestead will cost the State upward of $400,000 for military service at that place. He has already drawn warrants to the amount of $282,899. The Pennsylvania Railroad Company's bill for transporting troops, arms and tents is $52,000, and it is expected that the bills of the railroads of the State will be not less than $100,000.

Rapid progress is now making on the construction of the new line of road between Portland, Ore., and the Pacific Coast, at Astoria. The distance is 120 miles. The line when completed will have a transcontinental connection at Portland over both the Union Pacific and Northern Pacific lines, while the Southern Pacific will give it a direct route to San Francisco and southern California points.

The Government of Costa Rica has added 26 articles to the free list under the proposed reciprocal arrangement, when such articles are imported from the United States. They are mostly articles on which the duty is now relatively low, and wheat, flour and kerosene are not among them.

The Mexican Minister of Finance is preparing the draft of a new customs tariff, and it is rumored that it embodies great reductions.

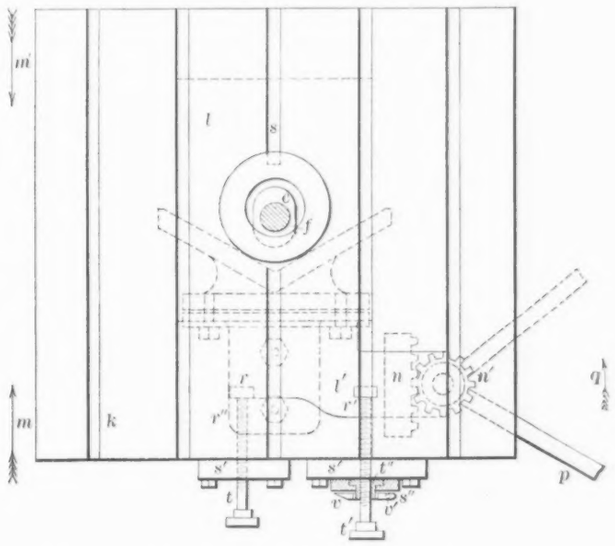


Fig. 5.—Enlarged View of Top of Table, Showing Feed Mechanism.

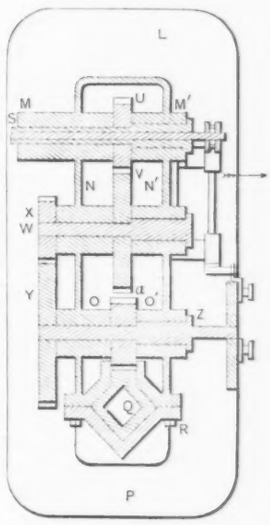


Fig. 6.—Cross Section on Line C of Fig. 2.

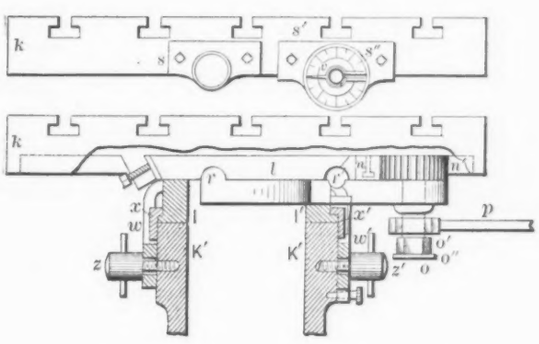


Fig. 7.—Enlarged View of Front of Table

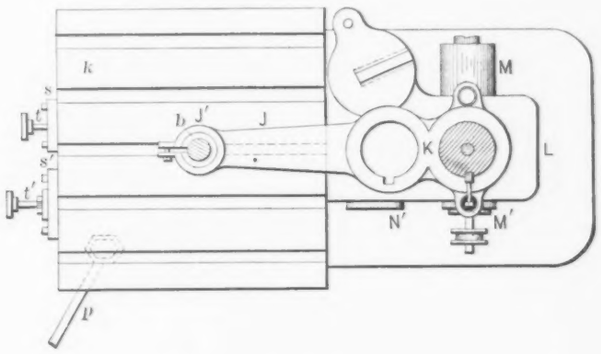


Fig. 8.—Plan.

THE COLBURN SLOTTING MACHINE OR KEY SEATER.

METAL-CUTTING TOOLS.—V.

Chuck Drills.

While not of the rotating class of tools, chuck drills may be properly considered with other forms of drills, as they partake of the same general qualities. The cutting edges, their angle, clearance, &c., are practically similar to those already described, with the exception of the absence of the point from the larger sizes, or more properly, the comparatively larger, as it is governed more by the size of the lathe than of the drill. When it is necessary to start a hole in the solid metal, of course a pointed drill is necessary, but for all sizes following, or all which are to be used in a drilled, cored or punched hole, the point is superfluous, and only makes so much unnecessary grinding. It is much the best plan to make all chuck drills from flat bar steel of the proper size. The practice of using old files for the purpose is not good economy, unless it be for temporary use. As it is very generally the case that chucked holes are deep in proportion to their diameters, it is very difficult to keep them true, even if started so, unless the body of drill is straight for the entire length which passes through the drill rest. As the latter holds the drill in position by the diagonally opposite corners, it is obvious that the point or axis cannot remain central as it was set at starting the hole if there be any variation in the width or thickne s, or both, of the drill body. Therefore, if old files be used the only way in which proper tools can be made of them is to forge them straight and of uniform width and thickness from end to end. As this will cost as much or even more than the extra price of new steel, it is poor economy in any case.

Very little work is necessary in making a drill from new material, as it is simply a matter of flattening the end to the desired width and thickness and cutting off the corners. The widening should, of course, be equally divided each side of the width of the bar, so as to keep the latter central for guiding. The other end should be filed or ground perfectly square, and a good drilled and countersunk center—not a punched one—made carefully in the centre of the bar section. On all metals except brass the cutting edges should be moderately lipped—that is, the lips should be ground on the corner of the grindstone, and not forged or filed. The forging of the end should not be carried further back than is absolutely necessary, as it will interfere with setting the drill rest as close to the work as it should be to guide the drill properly at starting. The size of the steel proper to use is that which measures slightly less than the drill size, measuring it across the corners. As the sizes of standard chuck drills vary by sixteenths of an inch, of course two sizes, at least, must be made from one size of steel, but it is not objectionable to make a difference of from 20 to 25 per cent. between size of steel and the largest drill. The best proportions for size of bar is a thickness of one-fourth the width, making 1 inch x ¼ inch, 1¼ inch x $\frac{5}{16}$ inch, 1½ inch x ⅜ inch, &c. This will hold good up to quite large sizes—3 inches by ¾, for instance, but beyond this the drill will have sufficient stiffness if the thickness be somewhat reduced.

For large work, particularly in cored holes, it is customary and desirable to fasten lags of hard wood to the drill body and turn them true on the centers, the size of drill. This serves to guide the drill and prevent its following the inequalities of the core. For all pointless chuck drills the temper may be made to range from full hardness to straw color. For pointed drills the same temper is required as before specified for ordinary drills. In using these tools bad work is sure to result from want of care or knowledge of the proper method of handling them. For castings having cored holes the drill rest should be set as close to the work as possible, and the drill end placed against the dead center of the lathe and the point inserted in the rest, but not touching the work. The rest can be roughly adjusted while holding the drill by hand firmly against the center, and at the same time giving it a forward twist. With the disengaged hand the wrench or hook can be placed on the drill, as close to the rest as possible, and the drill fed toward the work, the lathe having previously been started. Take the cut carefully and slowly, holding the drill very firmly with the wrench, and after it is nearly the full size of the drill, stop feeding and allow it to true up by revolving against the edges until all the spring is out and they do not cut any more. The hole is then started truly central with the work, although the core, of course, is always more or less out of true. The lathe should then be stopped and the accurate adjustment of the rest made by varying the hight as required to bring the drill truly central while held firmly in position in the rest. If it be out of center the hole will be larger than the drill, which, while of no importance except with reference to the last one to be followed by the reamer, is not workmanlike, nor will the drill work as it was designed to do.

The first drill in a cored or existing rough hole should always be firmly held during the whole time it is cutting, or it will run out of true so badly by the time it is through that it may not leave stock enough for those that follow it to clean up. The same precaution is necessary when blow holes, hard spots or other inequalities in the metal exist. If the hole be true a very light pressure on the wrench, or even holding the drill by the hand, is sufficient to guide it properly. One precaution is always necessary, however, which is to hold the drill firmly against the center when it is nearly through the hole, as otherwise it is almost sure to drop off as soon as the resistance of the cut is removed, and the result is almost sure to be that the body of drill will catch and cause trouble, and possibly damage, before the lathe can be stopped. In withdrawing the drills it is always much safer to stop the lathe, though it is a very common practice to omit this precaution.

For starting a hole in the solid, with the pointed drill, much subsequent trouble will be avoided if care be taken to have it truly central, and this cannot be accomplished in a hurry. A very good method is to adjust the rest roughly and holding the drill by hand, without the wrench, feed it in for a short distance—barely enough to have the point fairly entered. Of course it will run out, more or less, but by gradually raising or lowering the rest or feeding it in or out, as the case may be, it will soon true up. This can easily be known by the entire cessation of the wabbling motion of the drill. During the rest adjustment the drill must be fed in as fast as necessary to cause both edges to cut uniformly and the hole to be the full shape of the drill point. If this precaution be taken, and the drill body bears equally on both top and bottom faces of the rest, there will seldom be any difficulty in keeping the hole approximately true, no matter how deep it may be, unless there are blow holes or some other inequality in the metal to throw it out. This presupposes the use of a drill having the shank fairly straight, otherwise the variations will surely cause it to run out of true unless the rest be constantly adjusted to meet them.

Ordinarily, on medium sized work, the starting drill should be from $\frac{5}{8}$ inch to $\frac{3}{4}$ inch, and subsequent ones to cut about $\frac{1}{8}$ inch on a side, increasing the diameter ¼ inch each time, until the required size is reached. There is nothing gained by using a less number of drills, and thereby increasing the cut, unless the assortment of drills is insufficient and the job does not warrant their being made specially, in which case the work may be done with such as are available. The use of twist drills for chucking is very common practice, both by placing the center in shank on the lathe center and holding the drill by a carrier and bar; and also by the use of a socket in dead spindle. In either case it is necessary to use the utmost care to start the hole perfectly true, otherwise the error will rapidly increase as the drill penetrates, and finally will become so exaggerated as to bind and cause heating and breakage of the drill. In starting, as the drill rest is not available for any but flat drills, a very good plan is to run the heel of a tool held in the tool rest against the side of the drill close to the work, and hold it in such a position as to prevent wobbling. The use of a rigid bar with carrier to keep the drill from turning is very risky, as in case the drill should catch there is great danger of breaking it or the lathe center, or of doing some other serious damage. The best plan is to use a stick of wood strong enough to hold all the necessary strain of cut, but which will break in case of a catch of any kind. As in case of the flat drills, it is important to hold the drill firmly against center when the point is going through, as it is even more liable to catch on account of the twist and angularity of the lips to cutting edges.

Rose Reamers.

Rose reamers are improperly so called, as their function is purely that of a drill. They should always be made with an odd number of grooves and a corresponding number of cutting edges, so that each of the latter shall come opposite a groove. Usually there are from five to seven, although on very large sizes it is better to have a larger number to avoid the extreme width that would otherwise be necessary. The principal use of the tool, at least that for which it is most valuable, is for drilling out cored or other existing holes, which are not accurately centered for the required position. They are generally used in the drill press, though sometimes in the lathe and horizontal drilling machine. The shank is best made to fit the standard taper socket, as the tool requires to run perfectly true The body should be very slightly tapered from point to shank, to afford a shade of clearance—that is, the cutting end should be enough larger than the body to prevent the latter from binding as it penetrates, but not sufficiently to cause it to lose its value as a guide, nor to decrease the size of hole as the tool becomes shortened from repeated grinding. The grooves should be made with the right-hand side radial, as it forms the face for cutting edge. It should be well filleted at the bottom and curved on the left-hand side. Preferably, the work should be done on the milling machine, though if more convenient the shaper or planer will answer. The standard grooving cutters made by Brown & Sharpe and others will give the correct form of groove, provided they are set to give the radial face. The shape of the cutting edges, as to clearance on bottom, should be similar to that of other drills; and the side clearance, if any, must be very slight, and not approach too near the leading edge, which would impair the guiding action by decreasing the surface of cylindrical portion of body. If properly made in other respects, side clearance is not essential, and had best be omitted entirely.

Where cylindrical grinding facilities are available, it is best to finish up the body of the tool a little above size, finish cutting edge clearance and harden; then

grind to exact size, finishing with a fine wheel. For all except small sizes the tool may be used full hardness, or, if drawn at all, only to a light straw color. Of course this will be too hard for small diameters, as there would be danger of breakage, and they should, therefore, be tempered accordingly—say dark straw color or brown. Care should be taken to have the entire length of the body of uniform hardness, and not allow the upper portion to be soft, otherwise it will surely cut the first time it is used to that depth. The cutting edges should always be sharpened by grinding on an index grinder. If there be no regular machine of the kind available there should be one improvised, as it is very difficult to grind the edges alike by hand ; and unless they are properly done the cutting will necessarily all be done by the leading edges, while the others are idle, and the efficiency of the tool is correspondingly impaired. In using the rose drill on rough holes the best method is to insert a center of wood or sheet iron and scribe with the dividers a circle of the exact size of drill. Then, with a good sharp chisel, chip to the line, keeping the angle of cut uniform and as nearly as possible that of the drill edges. This will generally start the hole true as laid out, and there is very little danger of its forcing if once the guiding action of the body of drill is brought into effect, no matter how much one-sided the cut may be, provided, of course, that it does not run out altogether; in which case the hole will not clean up, and a larger size must be substituted if the work will admit of it.

Reamers.

Reamers are made of various shapes and kinds. There are the standard straight pattern, standard tapers of different degrees, and special shapes innumerable. The first named is one of the most particular of all the tools used in a machine shop, as on its accuracy and good condition, and, of course, proper use, depends the accuracy of all holes and parts working in them. The admirable modern system of duplication and interchangeability of parts would be manifestly impossible unless the greatest care and necessary facilities for absolute exactness of sizes be used, and the reamer is one of the most important factors for maintaining the desired accuracy. As a properly equipped toolroom will always contain a set of standard male and female guages, a frequent testing of the reamers is conveniently made, and should be, as a very slight amount of wear on the keen edges of the tool will make a very perceptible difference in the size, and thereby destroy the accuracy of interchangeable fitting, which will defeat the object of the system. There are many different makes and patterns of reamers in the market, some of which contain alleged improvements of one kind or another which are claimed to make them better (or worse) than the ordinary form. That the latter, however, is capable of doing as good work as it is possible to do with any of the innovations can hardly be questioned, and it is always a good rule to stick to a good thing when we have it. Many of the best shops prefer to make, rather than buy, their standard reamers, although for less accurate work they will use the manufactured ones on account of their lesser cost.

It is important to select only the best quality of steel obtainable, having the greatest possible uniformity of temper and homogeneity. By some tool makers the mild-centered steel is preferred, as it is stronger and less liable to break in hardening. Before using the forgings should be very carefully annealed, as it has considerable influence on the after operation of hardening. The centers should be drilled and countersunk—the drilling not unnecessarily deep—and the ends squared perfectly true, except that there should be a slight depression at the center to protect it from injury. The turning should be slightly above size, to allow for finishing by grinding. For the grooves the form given by standard cutters is correct, but as the tool is only intended for the merest scraping cut, there is no necessity for making them deep, and it is much better not. Always make an odd number of grooves, as if an even number be used it brings the cutting edges opposite to each other, which will cause the tool to stick and chatter, and work badly in all respects. The edges should be made quite thin, say $\frac{1}{64}$ inch for sizes from 1 to 2 inches. The number of grooves should be sufficient to retain the approximately circular form, and not that of a polygon. Of course, if there be no milling machine, the grooving may be done on the shaper or planer, on the ordinary index centers; but, in order to secure the desirable uniformity of depth of grooves and thickness of teeth, it will be best to go around first with the roughing cut, feeding down slowly and gauging the depth by a mark on the collar of the feed screw corresponding with one on the bearing. After completing the roughing cut for all the grooves, the tool should be ground and given a keen edge with a fine Washita or other good oil stone, and carefully reset. Then feed down to a mere scraping cut, fasten the feed screw, and index around the entire number of grooves without changing the position of the tool. This will give uniformity and smoothness, and will obviate the necessity for any but the slightest amount of filing or other method of finishing to give the required smoothness of surface.

Of course it is assumed that, in the absence of a milling machine, other improved facilities for this class of work would also be lacking, and that hand finishing would be necessary. Where they are available, however, it may be omitted and the finishing be done after hardening. The tool should be recessed as low as bottom of grooves for about $\frac{3}{4}$ inch on a 1-inch reamer, extending upward from the top end of the teeth. The square at top upon which the wrench fits should be carefully finished — preferably milled on the index. Leave a slight amount of the round to prevent sharp corners, and the top edges chamfered, to facilitate its entering the wrench. In hardening the heating is best done in a charcoal fire, slowly and uniformly, and the tool plunged quickly into a bath of fresh soft water, so that the entire neck is immersed, and kept moving steadily in a circular motion until perfectly cold. If springing is to be avoided the tool must be carefully poised in a vertical position, over the bath, within 1 or 2 inches of the surface, and plunged in the full length of body, with as quick a movement as possible. It is also important that it be kept in the water until the temperature is as low as the latter will make it, for, if withdrawn prematurely, there is great danger of hearing that sharp little "click, click," which means disaster in the shape of a cracked and spoiled reamer.

After withdrawing it from the bath, the tool is best tempered as soon as convenient, as there is always more or less danger from shrinkage strains, and consequent cracks, until the equalization by drawing is accomplished. For most makes of steel the color should be a clear straw yellow, and, in order to avoid the danger of being misled by the uncertain indications of the color guide, it is well to have a fine float file handy with which to test the hardness as the drawing proceeds. This should be done on all parts of the reamer, to make sure it is not progressing more rapidly in some parts than others. There are several methods of doing this heating —viz., the muffle, the sand bath, holding over the forge fire flame, and others of a crude and uncertain nature. The two first named are very good if intelligently used; if not, they are capable of atrociously bad results. The point to be particularly observed is slowness of heating, and as a means to this end, the temperature of the muffle or bath should be but slightly higher than that necessary to impart to the steel to give the desired temper. By this means the heat has a chance to become absorbed gradually and uniformly by the entire mass of the reamer; whereas if the heating medium be of a much higher temperature, the thermal conductivity of the metal will be insufficient to prevent the thinner portions (the teeth) from becoming heated above the degree required, and consequently the essential portion of the tool will be made too soft, while the body of the metal is much too hard. This is the greatest objection to the method of heating over the flame, although by the exercise of exceptional skill it may be made to give very satisfactory work, by manipulating the tool so as to give the heat a chance to equalize. The safest plan is to dip the tool—preferably in oil—as soon as the required temper is reached, as the drawing does not stop immediately on withdrawing from the heat, and there is danger of its running too low.

The tool is then ready for finishing; and, with improved facilities, this will consist in placing it on the index centers in the grinding machine and grinding the grooves true and clean, obliterating all tool marks, and giving a sharp edge to the faces of the teeth. The next operation will be to place on the centers in the grinding lathe and grind the entire length, from the end of the teeth to the square at the top—the body above the neck being just the barest shade smaller than the diameter of the teeth, and the latter tapering slightly at the point. The last and all important move is giving the necessary clearance to the teeth, back of the edge. It is safe to say that there are more badly working reamers from want of a proper knowledge or appreciation of this fact than from any other cause, or all others combined. The usual fault is too much—many times too much! And the result is that the cut is so rank as to cause the reamer to stick and jam—cocking first on one side of the hole, then on the other—jumping and chattering all the way through; and finally, when withdrawn, an examination of the hole shows it to be much larger than the reamer, and of a cross section which might be geometrically described as an "irregular" polygon. This is not an overdrawn view of the matter, as may be affirmed by any observant machinist of average experience. But, on the other hand, the same reamer, with proper clearance, will not only work smoothly and easily, leaving a clean bright hole, but the all-important item of size is absolutely assured—that is, the hole will be the size of the reamer, no larger, and certainly not smaller.

Now, as to the method of giving this clearance, of course, there is more than one, but certainly none better as to results nor more easily accomplished than the following: After the cylindrical grinding, leaving the reamer on the centers, take a good sharp-cutting Washita oil stove and, by hand, stone back the clearance by starting near the edge and working carefully to avoid touching the one back of it, stone the whole length of the tooth, increasing the amount of clearance uniformly from nothing at edge to the back. It is astonishing how very little stoning will give the desired result, and though the method may be an antiquated one, modern improvements have, so far, failed to excel it. A reamer so made, of course, is only intended for hand use, and for the removal of only so much metal as is a proper cut

for standardizing the hole. It works equally well in all kinds of metal, and if used with plenty of oil, will be very durable, retaining its edge and size for a long time. In use for cast iron, the size of hole may be varied by the use or omission of oil. With it, the reamer will cut what may be termed "normal" size, whereas if used dry the hole will be a shade larger.

Where there are no facilities for wheel grinding, another old-fashioned method may be resorted to as a very efficient substitute. Place the reamer on the centers of an ordinary engine lathe, and the aforementioned oil stone in the tool rest, where it may be held firmly in the position of a turning tool by placing wooden liners at the top and bottom, and placing a tool across it, passing through the tool post and the other end supported by a block or anything of proper hight to make it parallel. The screw of the tool post can then be set down carefully and the stone will be held very securely. Run the lathe backward on the fast speed, feed the stone up to the work very carefully, and as soon as it touches, feed back and forth quickly, by hand, the entire length of teeth and shank, feeding up the stone very gradually until it has worn to a good wide bearing. The caliper or standard ring guage should be used frequently, as the stone cuts much more rapidly than would be supposed, and after it is once made too small it is exceedingly difficult to make it larger again. After the proper size is reached the clearance can be stoned as desired. It need hardly be said that it is utterly impossible to make a reamer for accurate work by finishing it before hardening, as even an infinitesimal amount of springing during the process will be very perceptible in the size of hole. There is no shop so poorly equipped but that good work may be turned out by competent workmen, and it is in the fertility of resources, as well as by skill in manipulation, that the latter are distinguished. The number of tools whose sizes are fixed, and upon which the accuracy of work depends, is not large, and there is no excuse for their not being made and kept of the proper size. It certainly pays to put a small amount of expense into facilities for decreasing that of the work for which they are intended, and it is very short-sighted policy which fails to recognize this fact, and act on it.

The new building for the Boland Trade School, to be erected on Madison avenue and Fifty-first street, will cost about $175,000. The school will be conducted very much on the successful lines which have long been in practice in the celebrated trade schools of Colonel Auchmuty in this city. The fundamental idea of the management will be to give the boys such a practical knowledge of the trades that master workmen will be glad to secure their services in their shops and there give them the further training of experience until they shall become skilled in the craft they take up. It is calculated that the trade school can be run at very little expense beyond the regular cost of taking care of the boys, for a number of skilled workmen have already volunteered to devote a part of their time to teaching classes.

W. K. Vanderbilt has given orders to Laird & Co. of Liverpool, England, for a new steamer that shall be at least 350 feet in length and broader in beam than the "Alva," to succeed that ill-fated vessel. The new craft will be about 2000 tons.

The American Type Founders' Company, just organized, claims to comprise 23 houses and to have $9,000,000 capital. Three large firms remain outside.

Test of an Ellis Tresidder Compound Armor Plate.

We are indebted to Captain Tresidder for a series of photographs illustrating the results of a trial made on August 4 at Shoeburyness with a compound armor plate manufactured by John Brown & Co. of Sheffield by the Ellis-Tresidder methods. The plate was 8 feet by 6 feet by 10 inches, bolted by eight bolts to 3 feet 8 inches of oak and 1-inch iron skin plate. The gun was a 6-inch B. L., the charge being 48 pounds and the range 10 yards. The striking velocity was 1950 foot-seconds. There was a blister deep in the iron back and the object of the trial was to determine how far this affected the resistance. A hole was drilled to it from the back from which to survey it and this hole was plugged with 1½-inch screw plug. The fifth shot struck fair in the center of the blister.

The following table gives the results obtained:

Position of impact.	Projectile.	Result.	Pieces of shot recovered.
Right bottom corner.	Holtzer steel, 100¼ pounds.	Shot broke up, point fell out. Maximum penetration measured 2.17 inches. Bulge at back 0.39 inch. No cracks.	73 pieces weighing 33½ pounds.
Left top corner.	Holtzer steel, 100⅛ pounds.	Shot broke up, point fell out. Maximum penetration measured 1.09 inches. Bulge at back 0.12 inch. No cracks; small piece chipped from bottom right corner.	21 pieces weighing 7 pounds 5 ounces.
Right top corner.	Holtzer steel, 101¼ pounds.	Shot broke up, point lodged. Maximum penetration estimated 3 inches. Bulge at back 0.53 inch; one fine superficial hair crack in face from Round 2699 to right edge; another small piece chipped from bottom corner.	16 pieces weighing 7½ pounds.
Left bottom corner.	Holtzer steel, 100¾ pounds.	Shot broke up, point lodged. Maximum penetration estimated 3 inches. Bulge at back 0.47 inch; one fine jagged superficial hair crack from Round 2701 toward center and another from Round 2702 toward left.	29 pieces weighing 15¼ pounds.
On center of blister near center of plate.	Holtzer steel, 100¼ pounds.	Shot broke up, point lodged. Maximum penetration estimated 5 inches. Bulge at back 1.2 inch high, with vertical crack 1 foot long through inspection hole of blister.	37 pieces weighing 16 pounds 9 ounces.

On the removal of the frame a small piece of the right top corner was found to be loose and was knocked off. The side timbers and the corner hoops of frame were scored with thousands of small indents caused by the minute fragments of shot escaping tangentially to plate.

Torpedo Boat No. 2 Nearly Completed.

Torpedo Boat No. 2, for the United States navy, now being built by the Iowa Iron Works of Dubuque, Iowa, will be finished by November. The plans and specifications have been furnished by the United States Government, though many of the minor details are by the Iowa Iron Works. This is the plan: Hull 150 feet long, 15-foot beam, 11 feet deep, made of steel angles and plates, the outside to be of galvanized steel ¼ inch thick. The steel in the deck is made specially from Government specifications. On the deck is placed a conning tower, a conical box, about 6 feet in diameter and 7 feet high. From this tower the vessel is steered and handled, the power which regulates the discharge of the torpedo originating here. In the bow, 2 feet above the water line, is the torpedo tube, 12 inches in diameter, 10 or 12 feet in length. There is also a space on deck from which a torpedo may be fired. The boat is furnished with quadruple expansion engines with twin screws; the boilers are of the Thornycroft pattern. When finished it will be launched in the Mississippi a few yards from its present position, floated down to the Gulf of Mexico, and thence to the United States naval station at Pensacola, Fla. The price to be paid is $113,500, with an added bonus should the speed prove greater than 24 knots. There are good grounds for believing that this new engine of destruction will be called the "Dubuque."

An Interesting Wages Statement.

The *Railway Age* has made a very striking inquiry into the question of raising the wages of all railway employees which is being agitated. From it we make the following extracts:

There are about 860,000 employees in the service of the railways of the United States. An increase of wages of 30 cents a day to all employees (supposing one half of the entire number to work on Sundays and the other half to be paid for only six days in the week) would make—being $101.70 to the man a year—a total increase in payment for wages on all the railways of $87,000,000 annually. But during the year 1891 the entire amount of money paid in dividends on all the stock of all the railways of the country only amounted to $89,000,000. So that a general increase in wages of only 30 cents a day would just about wipe out the entire revenue of the railways of the United States available for dividends.

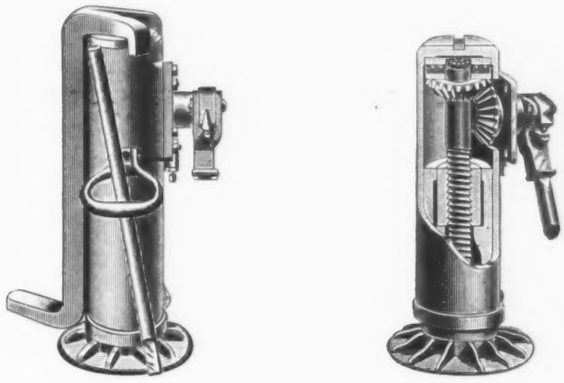
The least productive lines, of course, are those of the West and Southwest. But the employees are scattered all over the country, and the burden of increased wage-payment would have to be borne in the Southwest as well as in New England. Thus, there are 20,000 employees in the State of Texas—which at 30 cents a day amounts to over $2,000,000 annually. But in the Interstate Commerce Commission's territorial division, which includes the State of Texas, the total dividends were something less than $4000, and, in the language of the statistician to the commission, net earnings were a minus quantity. Where would those $2,000,000 for an increase in wages come from? Where is any increase in expense, for that matter, for wages or any other purpose, to come from for the railways of Texas?

Take again any of the larger granger roads, employing from 25,000 to 30,000 men. The increase of 30 cents a day would mean to such a road from $2,500,000 to $3,000,000 a year. What road could pay that?

A general increase of wages to all railway employees of even 10 cents a day would, within two years, send two thirds at least of the companies which are nominally solvent to-day into bankruptcy; and would produce such a universal panic, such an utter wreck of credit, that every employee would suffer fifty times more than he would gain by any advance.

Ball Bearing Compound Jack.

A O. Norton of 45 Oliver street, Boston, has recently brought out the ball-bearing jack of which engravings are here published. The right hand view clearly shows



BALL-BEARING COMPOUND JACK.

the construction. Mounted on the outer end of a short horizontal shaft is the ratchet lever by means of which the jack is operated. On the inner end of this shaft is a bevel gear engaging with a similar gear on the lifting screw. Placed between the cap on top of this screw and the under side of the top of the case are hardened steel balls arranged as shown. The bearing supports the entire load lifted, while the introduction of the balls reduces friction to a minimum and correspondingly lessens the power required to do the work. It is evident that this jack can be made light, and at the same time strong and durable, and that it can be used in any desired position.

Tests of the Meneely roller bearing, manufactured by the Meneely Bearing Company, West Troy, N. Y., have been made recently on Delaware & Hudson Canal Company trains, running between Albany and Troy, N. Y. Two four car trains, each weighing 102 tons, were run 18 round trips, 270 miles. It is stated that the coal burned by the locomotive hauling the train equipped with Meneely bearings was 14,800 pounds, or 55 pounds per train-mile. The locomotive of the other train, equipped with ordinary bearings, burned 11,100 pounds, or 41 pounds per train-mile, an apparent saving of 25 per cent. A dynamometer test showed that a pull of 3276 pounds, 32 pounds per ton, was required to start the train with the plain bearings, and only 252 pounds, 2½ pounds a ton, was required with the roller-bearing train.

A well defined report is being circulated in Pittsburgh to the effect that the finishers who are members of the Amalgamated Association have become very much dissatisfied with the recent rulings of that organization and have decided to form an independent association of their own. It is expected that a meeting will be held in a short time to take definite action on the matter.

Armour's Elevated Electric Road.

To P. D. Armour, the well-known Chicago packer, says the *Western Electrician*, is due the credit of having introduced into his immense establishment at the Stock Yards, in the World's Fair city, what is very probably the first elevated electric railway of any size in this country. Six thousand feet of 3 foot gauge track is now finished, and extensions of about 2 miles more are under way.

The Armour elevated railway system connects all the warehouses and slaughtering houses, and is so planned that the entire product of the establishment will be handled by electricity. The elevation of the road is 23 feet above the surface of the ground. Where the line runs between the main buildings the structure is of steel; the remainder is of Georgia pine The numerous switches necessary to reach all parts of the buildings made the construction very difficult to plan satisfactorily. The iron work was laid out and erected by Master Mechanic John Bouchard of Armour & Co. The electrical work was done under a contract made with the Thomson-Houston Company through Manager George P. Nichols of the motor department of the Western office of the electrical company, in consultation with Armour & Co.'s chief electrician, A. Shillinglaw, and his assistant, James Malia. At present there are in service on the system two 20-horse-power locomotives of the standard Thomson-Houston type. It should also be stated that the cars, which have each only two wheels, were designed by Mr. Nichols. These cars are provided with what might be called flat-flanged wheels, in order that, when desired, they may be run off the rails on to the floors of the different houses.

The power house is located about a quarter of a mile from the road, and will be some distance beyond that when the company move into their new electric station, which will be one of the most complete in the country, occupying a building 125 x 150 feet, and comprising three stories, built of steel and brick, with the engines located on the first floor, shafting on the second, and dynamos on the third. Current for the present railway equipment is supplied from a Thomson-Houston 135 horse-power generator. There is also ready for service a National 80 horse-power machine.

The harbor defense ram No. 1 has been launched at the yard of the Bath Iron Works. Congress, by act of March 2, 1889, authorized the construction of a twin-screw, armor-plated harbor defense ram, upon the design of Rear Admiral Ammen, U. S. N., the design being based upon his experience with the use of and defense against rams in the War of the Rebellion. There was but one bidder, the Bath Iron Works, of Bath, Me., and on January 28, 1891, the contract was awarded to this company to build and equip the vessel and machinery and place the armor for $930,000.

Shafting Stand.

It is probable that those in charge of electric light stations have more to do with heavy line shafts at high speed than any other machine users. The accompanying engraving represents a new shafting stand which has been put on the market by The Lane & Bodley Company of Cincinnati, Ohio, to supply the demand for a substantial stand, provided with self-oiling boxes easily adjusted and from which the boxes may be removed without removing the shaft, even though a bearing or pulley hub be on both sides. The bearings are made in length four times the diameter of the shaft and are lined with first-quality bearing metal and supplied with a self-oiling chain feed.

The engraving shows that the bearing is held by four screws, two vertical and two

Shafting Stand.

horizontal. This permits of the accurate alignment of the shaft and the easy removal of the boxes when necessary.

The last rail has just been laid completing the Norfolk & Western Railroad from Norfolk, Va., to Columbus, Ohio, a distance of 707 miles. From Chicago to Norfolk by this route the distance is 1020 miles, or only 60 miles more than the distance to the same tidewater terminus by the Chesapeake & Ohio, with which the new road will form a competition for traffic between the Northwest and the coal fields, forests and farms of West Virginia and Virginia, and the water routes starting from Chesapeake Bay.

Cutting off "extra" pay for overtime has been the cause of considerable trouble recently in the Rogers Locomotive Works at Paterson. All the laborers in the millwright shops have quit work in consequence of the new rule, and they positively refuse to return unless the old conditions are restored.

The Pacific Rolling Mill Company's Corliss Engine.

With the advent of mild steel and its adoption by bridge and structural engineers as standard for all of their material the Pacific Rolling Mill Company of San Francisco, Cal., soon found that their business in iron beams, channels and other structural shapes was fast dwindling to insignificant proportions, and that new and improved machinery was imperatively demanded in order to meet the requirements of the coast.

It was determined to build a train of rolls sufficiently large to roll a 20-inch steel I beam—using the first set of housings as a blooming mill and two sets of housings for roughing and finishing rolls. The most serious problem to be solved was the question of economy in the engine. The difficulty was that while they had a train and necessarily an engine capable of rolling a 20-inch steel beam the larger part of their work (say 75 per cent. of it) could be done by a much smaller train and engine.

The price of coal averaging, year in and year out, about $7 per ton induced them to settle upon a Corliss compound surface condensing engine.

The usual requirements of this engine being about 800 horse-power, and its extreme running up as high as 1300 to 1400 horse-power, it became necessary to build an especial engine that would do its usual work with the highest economy possible, and at the same time be ready to respond promptly and efficiently to the call for the extreme power needed. With this idea in view Clarence L. Foutz was called upon by Patrick Noble, superintendent of the Pacific Rolling Mill Company, to design the engine, the plans of which are herewith given. His instructions were to adapt to the purpose all the latest improvements in Corliss engines. All the parts have been designed to stand the highest strains that may be brought upon them. The normal steam pressure throughout the mill is 80 pounds per square inch, but provision has been made by which six batteries (12 boilers) aggregating 1500 horse-power, at 80 pounds, can be cut off from the main steam system of the mill and the pressure raised to 100 pounds per square inch, also the high pressure cylinder can be cut off and the large cylinder used direct in case of need; the sizes of pumps, condensers, &c., were all made with this end in view.

The engine is tandem, with the low-pressure cylinder nearest the crank, as shown in the side elevation and plan views, Figs. 1 and 2. The high pressure cylinder has a diameter of 26 inches, the low-pressure being 46 inches and the stroke 48. Steam from the high to the low pressure cylinder passes through a pipe that is steam jacketed; both cylinders are also steam jacketed, and then covered with magnesia packing.

The fly wheel is 24 feet in diameter and weighs 108,000 pounds. It was turned perfectly true after the parts had been assembled. The center of the hub is very heavy and the rim of the hub is counterbored to receive the spokes, which are cast hollow and secured to the rim by studs. In addition to these studs each segment of the rim—of which there are ten—has two steel rods 2 inches in diameter with square heads let into the rim and secured to the hub with nuts. The ends of the segments of the rim are faced and bolted together with 1¼-inch turned bolts. The details of the construction of the fly wheel are clearly shown in

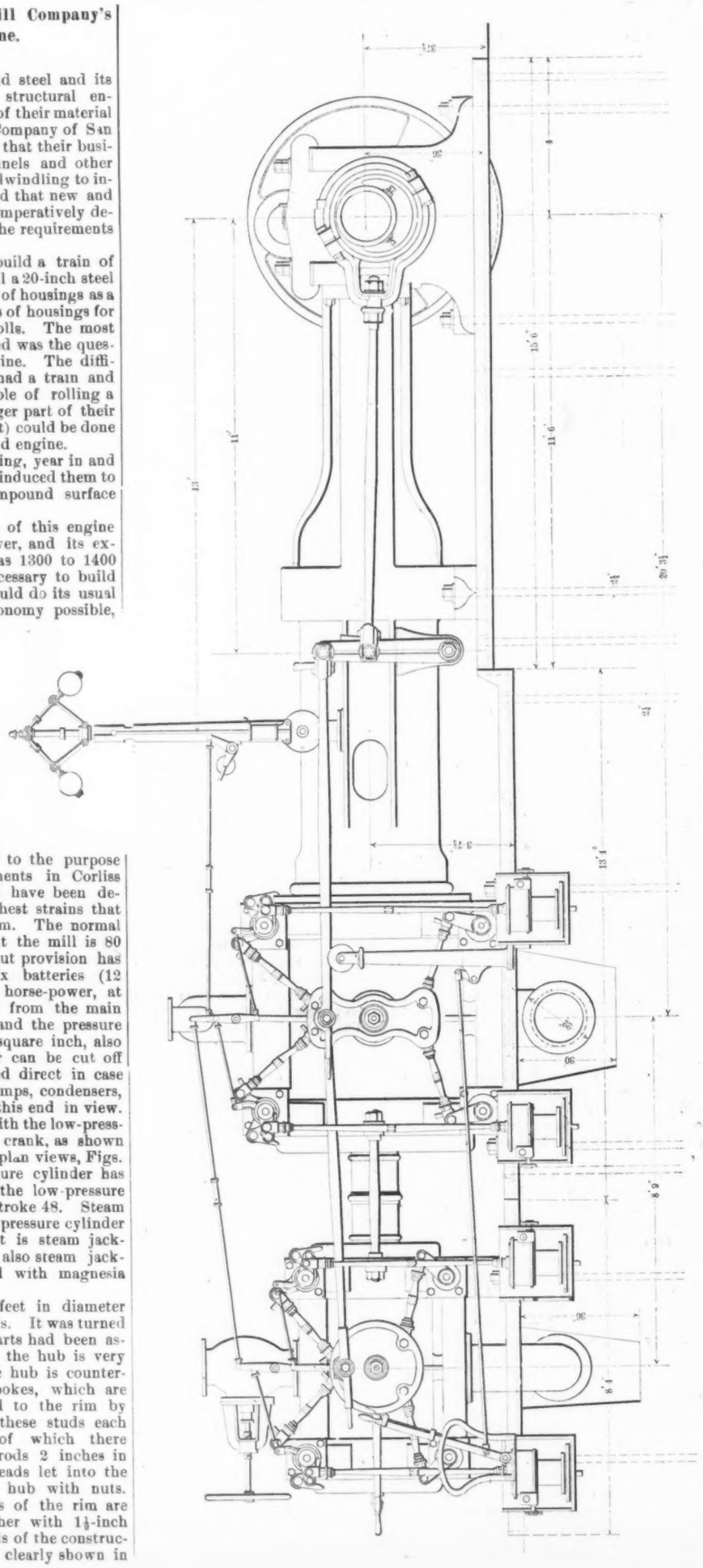


Fig. 1.—Side Elevation.

THE PACIFIC ROLLING MILL COMPANY'S CORLISS ENGINE.

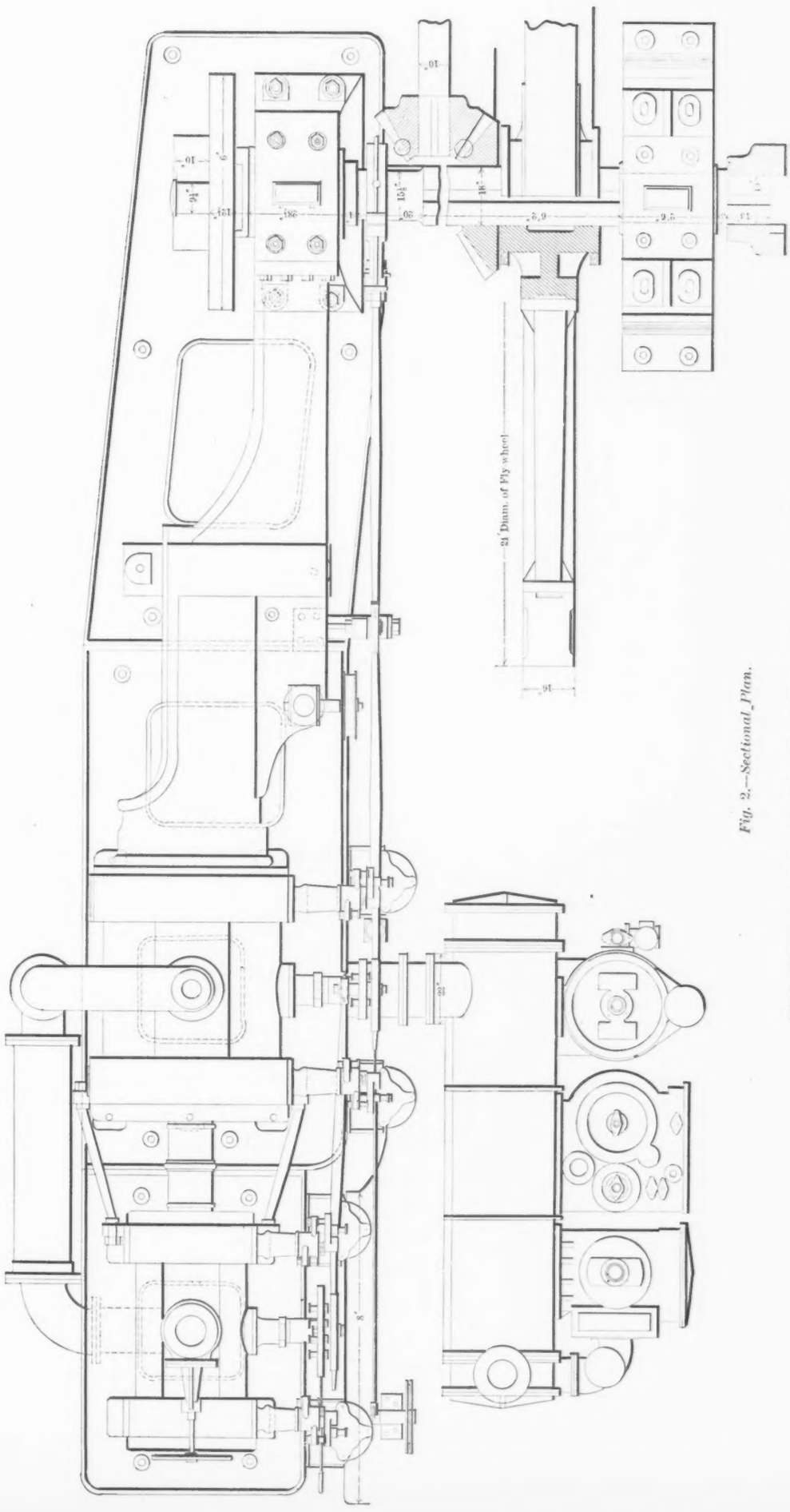


Fig. 2.—Sectional Plan.

THE PACIFIC ROLLING MILL COMPANY'S CORLISS ENGINE.

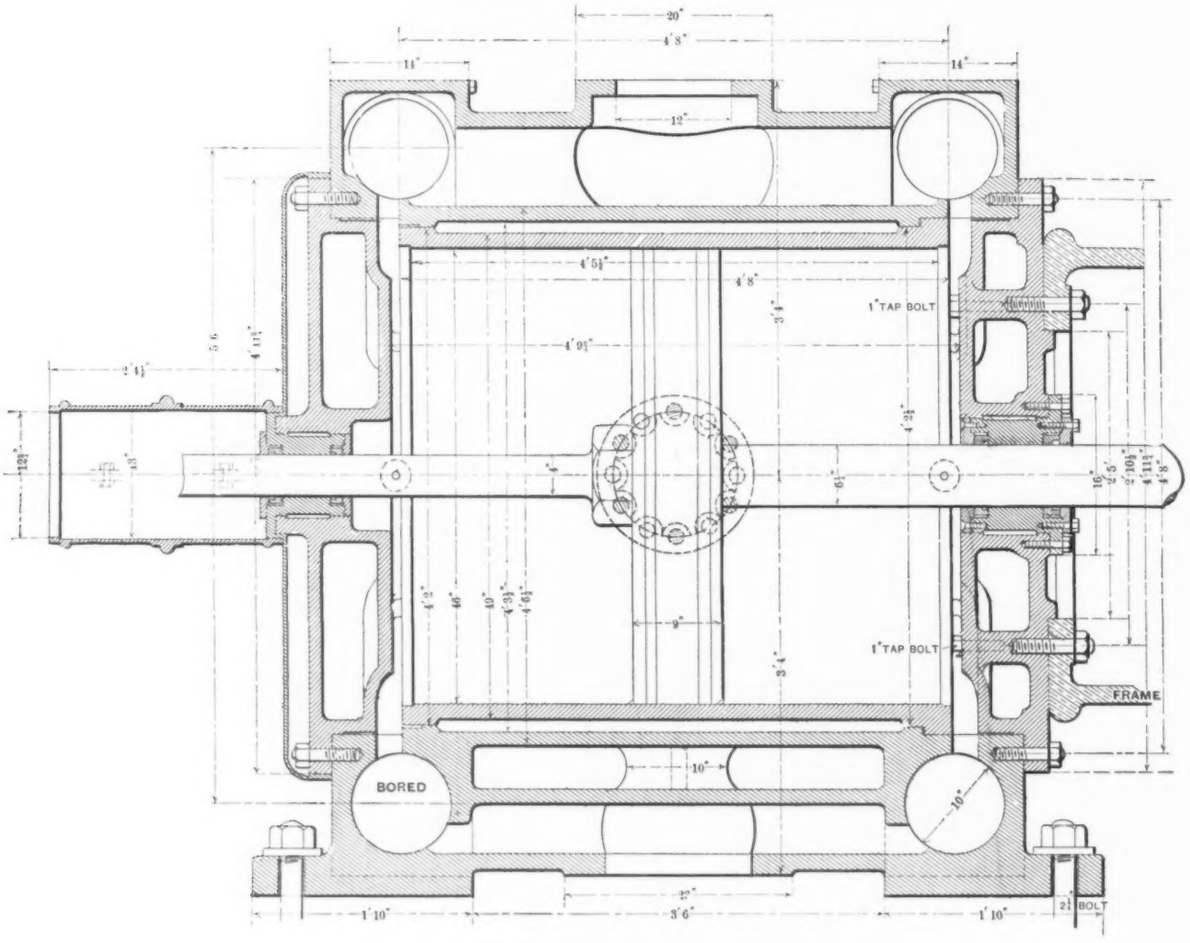


Fig. 3.—Vertical Longitudinal Section through Low-Pressure Cylinder.

Figs. 6, 7 and 8. The pistons of both cylinders—that of the low-pressure is shown in Figs. 4 and 5—consist of a cast disk cored out hollow, with a follower of steel. There is a U-ring with two small rings with brass tongue. In the U-ring at each side of the split where the ring is cut there are lugs forming a recess, Fig. 4, to receive brass nuts for a right and left hand screw intended for drawing together the large ring and making it as tight or as loose a fit as may be required. At the same time the lugs are free to move together, so that there is

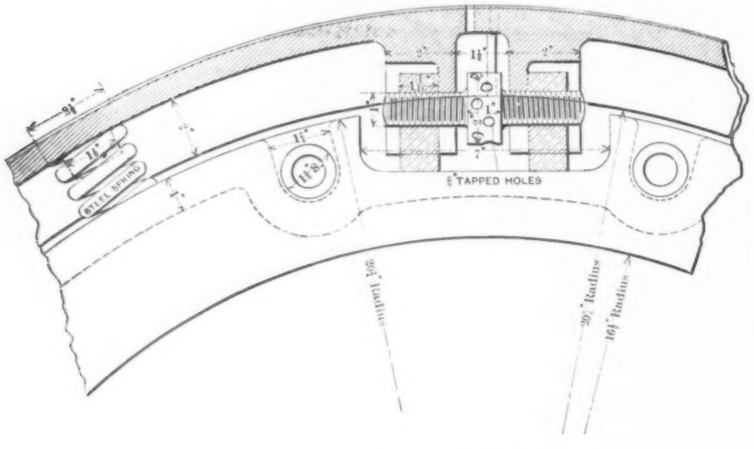


Fig. 4.—Detail of Piston Packing.

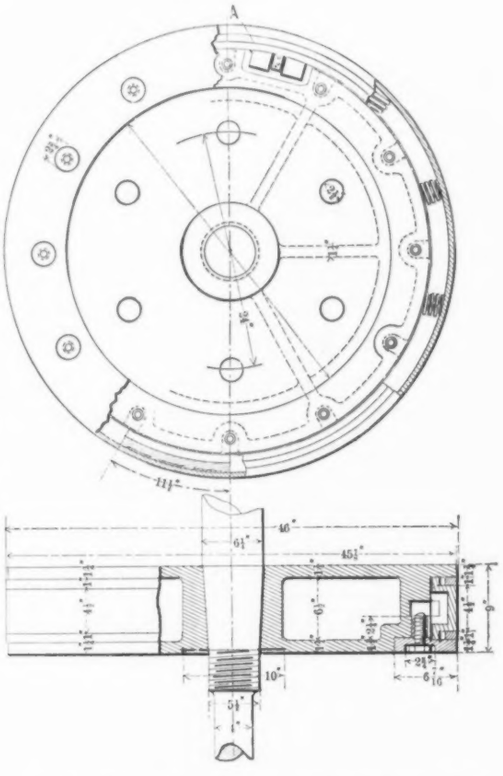


Fig. 5.—Face and Side View of Low-Pressure Piston.

THE PACIFIC ROLLING MILL COMPANY'S CORLISS ENGINE.

no danger of getting too tight a fit in case of expansion.

The air and circulating pumps are driven from the cross head of the engine; and the stroke of the pumps, by an ingenious device, can be varied to suit the amount of work the engine is doing, with a provision by which the air pump always "bottoms," no matter how the stroke is varied. The water for condensing is taken from the bay.

WORLD'S FAIR NOTES.

Electricity at the Fair.

Visitors to the fair who are at all interested in electricity will find the great central station plant in Machinery Hall one of the most attractive and instructive features of the exhibition, says the *Western Electrician*. Here will be seen the latest type of engines, boilers, arc and incandescent dynamos and power-generators, while large electric traveling cranes, fitted up for passengers, will slowly traverse the great building from end to end, giving visitors an admirable opportunity to view the machinery on the floor below. The plant will supply 90,000 or 100,000 incandescent lamps, about 5500 arc lamps and some 2500 horse-power for motor service. The installation takes up the southern portion of Machinery Hall and the southeastern corner of the annex.

These buildings, which are practically one, together have dimensions of 1193 x 490 feet. The electrical plant will be included in a space 800 feet long and 100 feet wide, or 80,000 square feet. The boiler house is distinct, adjoining Machinery Hall on the south, and is 630 feet long and 85 feet wide. It will contain Root, Gill, Heine, National, Campbell & Zell and Babcock & Wilcox boilers, arranged in the orders given, from east to west, the total capacity being about 20,000 horse-power. In the dynamo and engine room the first compartment on the east, in the southeastern corner of Machinery Hall, contains four Eddy power-generators of 250 kilowatts' capacity each, driven by three Phœnix engines of an aggregate capacity of 1000 horse-power and a 500 horse-power Reynolds Corliss engine directly connected to a Westinghouse power generator of equal capacity. The next compartment is also given over to power generators, containing two 120 kilowatt and two 225 kilowatt Mather machines, and four 80 kilowatt C. & C. generators, driven by two Woodbury engines of 550 and 350 horse-power, respectively, and two other 200 horse-power engines not yet determined. The next section west is occupied by 16 Brush arc machines, each of 50 lights' capacity. These are driven by five Ball & Wood engines, of a combined capacity of 800 horse-power. Then comes the Westinghouse incandescent installation. There are to be ten 10,000 light alternators. Two of these in the central space, which is larger than the other sections, are belted in tandem to the big 2000 horse-power Allis engine, the largest steam engine at the exposition. In this section there is also a 10,000 light machine, operated by a 1000 horse-power Fraser & Chalmers engine, and three

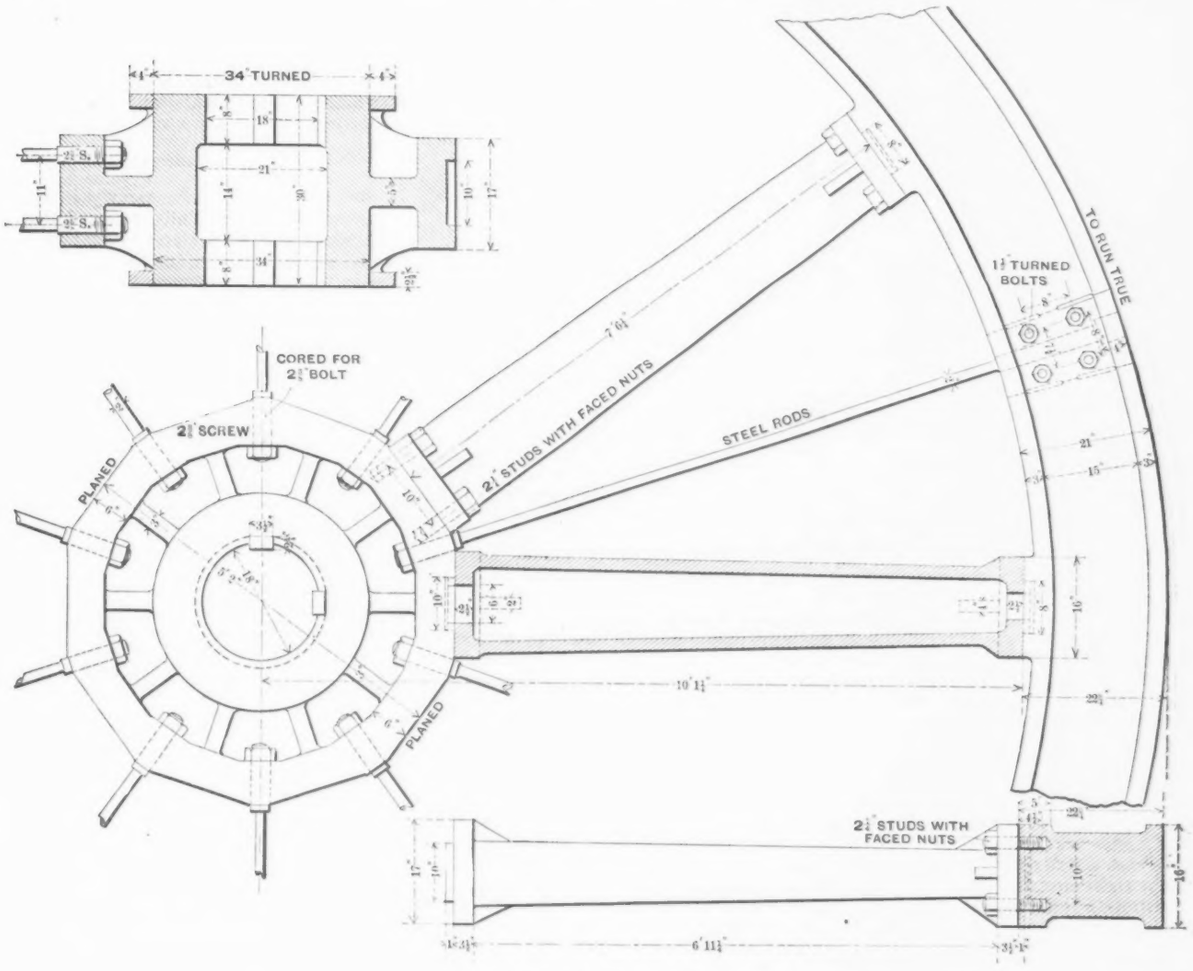


Fig. 6.—Details of Fly Wheel.

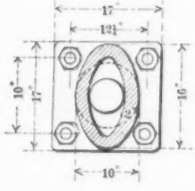


Fig. 7.—Section of Spoke at Hub.

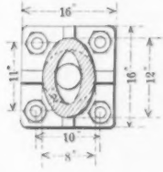


Fig. 8.—Section of Spoke at Rim.

THE PACIFIC ROLLING MILL COMPANY'S CORLISS ENGINE.

The engine has fulfilled, in every way, all expectations and has proven the value of the Corliss type of engine for rolling-mill purposes.

The rolling stock, &c., of the United States Rolling Stock Company, at Anniston, Ala., was sold on the 27th ult. by Receiver Lane to George W. Ristine, general manager of the New United States Car Company, who bought for his company. The new company have also leased the immense plant there.

smaller Westinghouse direct connected power generators. In the next space are four great direct-connected Westinghouse machines, each of 10,000 lights' capacity. Then come three more Westinghouse dynamos, belted directly to 1000 horse-power engines of the Buckeye, Atlas and McIntosh & Seymour types. A section will undoubtedly be utilized for the Western Electric Company's arc dynamos. Fourteen Fort Wayne 50-light arc machines will be installed in the next compartment on the west, the engines being of the Buckeye type, with a combined rating of 850 horse-power. Twenty Standard arc dynamos, each a 50-lighter, occupy the space adjoining, which is in the southwestern corner of the great building. They are driven by three Russell engines of 950 horse-power. The Thomson-Houston arc 50 light dynamos, 26 in number, are in the annex, operated by one 500 horse power Atlas engine and three Lane & Bodley engines of a combined capacity of 750 horse-power. Aisles for visitors separate the sections, and the plant is so arranged that the machinery can be seen from all sides. When in operation the installation will undoubtedly constitute the largest electrical plant in the world. It was planned by Frederick Sargent and R. H. Pierce.

Considerable attention is now being given to the subject of lighting the grounds and buildings for the dedicatory exercises. This will be done by arc lamps, but the extent of the illumination is still unsettled. Probably the Manufactures, Transportation, Mines and Machinery annex buildings, and a portion of the grounds, will be lighted. The Transportation Building is nearly all wired for the permanent arc lighting. The cross arms are now being placed in the subways and the work of stretching the arc-light wires will soon be begun. About 75,000 feet of wire for the fire and police alarm telegraphs has been laid. The principal electrical display at the dedication will be obtained by the use of two Schuckert projectors, by which it is proposed to throw a flood of light on the buildings and out on the lake.

Work on the elevated electric railway is well under way, and many foundations have been already put in.

The eight electric elevators for the Administration Building have been placed in position.

New York's Geologist Deposed.

The statement was given to the press at the offices of the World's Fair Managers in Albany, a short time since, that State Geologist James Hall had been selected to conduct the geological exhibit of the State of New York at the World's Fair. Dr. Hall was notified at the same time and had conferences with Commissioner Thacher and Executive Officer McNaughton. He was told that $5000 had been placed at his disposal, and he accordingly laid out his plans and employed certain attendants. On September 29, to his surprise, Dr. Hall was informed that his assistant, F. J. H. Merrill, was to be superintendent of the New York geological exhibit. No reason is given for the change. Dr. Hall is 82 years of age and has been State Geologist for 40 years. He was born at Hingham, Mass., September 12, 1811. His father, James Hall, was a native of Lancashire, England, a woolen manufacturer. At 17 years of age Mr. Hall studied medicine, but gave that up for natural history. At the age of 25 he was chosen professor of geology in Rensselaer School, and shortly afterward took up his residence in Albany, where he has since resided. Since that time he has been for the most part in the employ of the State, and has published innumerable books on the State's geology and reports. One of his greatest pieces of work is the "Paleontology of New York," of which 11 volumes have already been issued. This displays his industry and scientific attainments. In 1855 Dr. Hall declined an offer to become the Canadian Government Geologist. He was induced to remain in New York by Professors Agassiz, Chester Dewey, James D. Dana and others. The same year Dr. Hall was appointed State Geologist of New York. In 1857 he was appointed by act of the Wisconsin Legislature one of the three commissioners to make a geological, mineralogical and agricultural survey of that State. Few learned men have received more honors from collegiate and scientific institutions at home and abroad than Dr. Hall. Although past the mark of four score years, Dr. Hall is still pursuing his scientific labors.

The Elevated Railroad Company's Entrance.

Plans for the South Side Elevated Railroad's entrance to Jackson Park were approved last week. As provided, the entrance will be at Sixty-third street and Stony Island avenue, just north of the Transportation annex. The roadway will be on uprights, 30 feet high, the same columns being used to support the roof of the annex. When inside of the grounds the road will turn to the south, passing over the annex to the south end of the Transportation Building, where the terminal station will be. There will be two tracks parallel with those of the intramural road, which will be the same distance from the ground. Three platforms will be provided, one in the center and one on each side of the tracks. The center platform will be 20 feet wide by 400 feet long, and will be used for passengers returning, while the platforms on either side, upon which incoming trains will discharge passengers, are each 12 feet wide by 400 feet long. Arrangements will be made by which outgoing and incoming passengers will be separated, so as to prevent the exit from being congested. A platform 40 feet wide will connect with the intramural road, and will contain World's Fair ticket offices. Passengers entering the fair will pass down a flight of steps 44 feet wide, divided from the exit staircase.

At the foot of this stairway a ground space sufficient to contain two train loads has been reserved, so that there will be no crowding at the World's Fair ticket offices and turnstiles, of which there will be ten of each. Visitors in passing the turnstiles will find themselves facing south, opposite the railway terminal station and the plaza. Men are now actively engaged on Sixty-third street, and at the point of entrance to the grounds, in putting in the column bases for the tracks, and the work will be pushed to completion as fast as possible.

Souvenir Coins Take Precedence.

As a result of a conference at Washington last week between the Director of the Mint and Engraver Barber instructions were sent to Philadelphia to expedite by all possible means the work on the dies for the Columbus silver half-dollar. This work is to be given precedence over all other orders at the mint, the intention being to have the dies ready not later than December 1. Director-General Davis was notified by the Treasury Department that he might expect to receive 1,000,000 pieces of the new coin during December. These pieces will be delivered directly to a duly authorized agent of the exposition for distribution at Chicago and under no circumstances will any of them be put in circulation either by mint or other Treasury officials. On the obverse of the coin will be a profile of Columbus from the Lotto full-faced portrait, made by Warner of New York, and the lettering encircling the portrait will be "United States of America. Half-Dollar." A change has been made in the composition of the hemispheres to be shown with the Columbus caravel on the reverse of the coin, for the outlines of the various continents will be faithfully portrayed. Chicago will be conspicuously mentioned on this side of the coin, the lettering of which will set forth, "World's Columbian Exposition, Chicago, 1892." Just above the hemispheres and below the caravel will be the figures "1492." The designs submitted have met with the unanimous approval of the World's Fair and Government officials. Just how the reverse of the coin would appear was shown by Engraver Barber, who in two days had a die prepared and submitted to the World's Fair people, a silver coin of the same size as a half-dollar bearing a representation of a caravel and the eastern and western hemispheres.

Thinks It Marvelous.

Joel Cook, who has for many years been associated with the Philadelphia *Ledger*, and who has acted as correspondent for the London *Times*, is now in Chicago, securing information concerning the fair, to be used in an article he is preparing for the latter paper. Mr. Cook has watched the progress of the construction work since the first dirt was turned at Jackson Park. Speaking of the enterprise, he said:

"I first visited Chicago in 1887. At the time Mr. Pullman took me over the South Side and pointed out Jackson Park as the probable site of the fair. What I saw was a swamp covered in some places with a dense growth of weeds. It was the most uninviting spot in Illinois, and I could see no reason for locating the exposition there.

"About one year ago I was again in Chicago with Mr. Dredge and Sir Henry Trueman Wood. I was astonished to find in the place of a swamp a proper site for an exposition of great magnitude. Then the foundations for the buildings were in, and I concluded that the undertaking was too heavy to be carried through to a successful completion. It did not seem possible that the work could be done in the time allowed.

"Like many others, however, I did not make allowance for Chicago's resources. I can now hardly comprehend that the buildings have gone into the air in a little more than one year. I would not be surprised to learn that there was a touch of magic in it.

"So far as I can see, more attention has been paid to the artistic than ever before in the construction work connected with an international fair. The buildings are not big barns and warehouses; they are of artistic creation, and the grouping has been done by a master. I consider it the finest thing ever attempted in an architectural way.

"The landscape gardeners have had to deal with a hard problem, but they have found a solution. The park was so level as to make it difficult to present unique features. Trees and foliage have been put in until the correct result has been attained. The skill displayed is marvelous."

Progress at the Park.

The wonderful progress of the work on the buildings at Jackson Park during the past six weeks can only be entirely grasped by a trip through the grounds.

Machinery Hall shows the greatest progress. Three weeks ago it was a bewildering mass of iron girders and wooden scaffolding. Last week its appearance had been entirely changed. None of the iron was visible, being covered by the roof, and the wood work was being rapidly replaced with staff. The Agricultural Building presents a completed exterior view.

The peristyle connecting the Casino with the Music Hall shows marble columns, the result of staff work, and the buildings

which it connects are rapidly being covered with the same material. The Administration Building's dome is being painted on the outside.

The seats for the dedication ceremonies are being placed in the Manufactures Building, which begins to resemble an auditorium. The galvanized iron roof for this building has been nearly completed, and only a small portion of the north surface remains to be covered.

On the wooded island work has been practically completed, as far as filling in and grading is concerned. It is now isolated, as the temporary bridges have been torn away to make room for those of iron, which have not yet been completed.

To Decorate the Transportation Building.

Healey & Millet of Chicago, were awarded the contract for the interior decoration of the Transportation Building for $25,000. The work will be done in colors and this is the only building on the grounds which it has been decided to decorate in this manner. Chief Smith of the Department of Transportation proposes that in case the railroad companies will pay the expense the

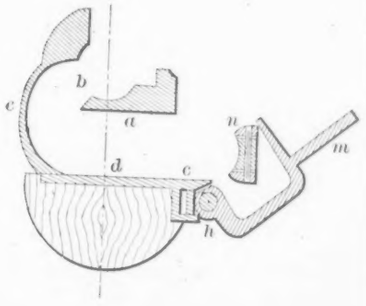


Fig. 1.

trade-marks of the various companies will be used as shields or plats to be hung on the walls of the building in such a way as to give the best artistic effect. He estimates the cost of each shield at $15, the hight to be 5 feet 6 inches.

Bomb-Throwing Mortars Arrive.

One hundred and four immense iron mortars for throwing bombs, weighing from 200 to 700 pounds each, were received at the Chicago Custom House. They are for use in the pyrotechnic displays during the dedication of the World's Fair, and also on future occasions of a similar character during the fair. One hundred of the mortars are of 8 inch caliber, two of 12-inch and two of 16-inch caliber. They came from England. After the fair closes the mortars will be returned to that country.

Mammoth Search Lights Coming.

Fred. W. Tischendorfer, electrician for Schuckertt & Co., Nuremberg, Germany, is expected to arrive in Chicago October 1. He comes to install the two largest search lights in the world on the exposition grounds. These lights have 6 foot parabolic ground-glass reflectors, are 10 horse-power and weigh 2 tons each. These are to be in readiness for use at the time of the dedication ceremonies. Another search light with solid ground glass 7½ feet in diameter, 12 horse-power and 25,000 candle-power, will be installed May 1, next year.

Columbian Series of Stamps.

Postmaster General Wanamaker has decided to issue what will be known as the Columbian series of postage stamps under a contract signed on the 29th ult. The new stamps will be of the same hight as the present series, but twice as wide, the increased size being thought necessary in order to properly display the illustrations. These are intended to commemorate the discovery of America by Columbus. It is expected that the entire series will be put on sale January 1, 1893, and during the succeeding year will entirely supersede the present series.

The Krag Jorgensen Magazine Rifle.

Some two years since a board composed of officers of the United States Army was appointed to consider and recommend a suitable magazine system for rifles and carbines for the military service. The board recently reported in favor of the Krag-Jorgensen rifle, of which we herewith present drawings. A most important difference between it and the Danish rifle is that the magazine gate is hinged on the under side instead of horizontally toward the muzzle. The smaller illustration, Fig. 1, shows clearly how this gate operates.

In this illustration *m* is the thumb piece by which the gate is opened and closed; *n* is the feed plate, which exerts a continuous pressure upon the cartridges when the gate is closed, pushing them toward the barrel as they are consumed, until the last one is in the position *b*. In the operation of filling the magazine the "clip" containing the five cartridges is emptied into the magazine and is not itself inserted, but thrown away.

In Fig. 2 the bolt *c* is a cylindrical tube sliding in the receiver. It is pierced for the firing pin and one side projects to form a locking lug when pushed home and the lever turned down. When drawn back there is another lug to check the motion and fasten it open. This single motion operates the extractor, flinging the empty shell out to the right while another shell is admitted to the left; the last part of the pull back sets the firing pin spring, and the trigger is then set ready for a discharge. A small thumb piece on the magazine top enables the cartridge in the magazine to be retained there and the arm becomes at once a single loader, taking the cartridge from the top in very similar fashion to the present Springfield. The magazine may be charged to its capacity when partially empty, and it may be readily emptied without firing.

Fig. 3 shows the breech mechanism from above, the gate being open, and *m* being the thumb piece. When the gate is closed the follower, pressing the cartridge around into position, is in the position indicated by *b* in the dotted lines. The projection *p* regulates the use of the gun as a magazine or single loader.

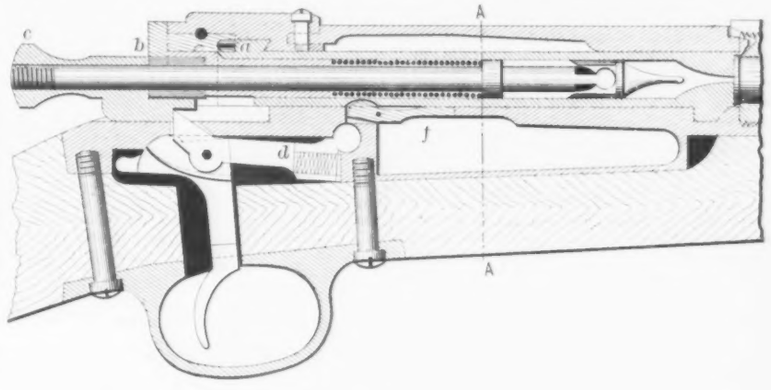


Fig. 2.

The Chief of Ordnance, in approving the report of the board, says:

"It is recommended, therefore, that the Secretary of War approve the selection of the Krag-Jorgensen rifle for trial, with the view to adoption in the military service of the United States, as recommended by the board.

"Questions of proper caliber, ammunition, sighting, rifling and ramrod and some minor details to be applied to this system remain to be determined, and authority is asked for this department to organize a board of ordnance officers, to be charged with determining these points at once."

General Schofield has given his approval in the following indorsement: "Respectfully returned to the Acting Secretary of War, fully concurring in the recommendation of the Chief of Ordnance in the preceding indorsement, dated September 10, 1892. Early action is desirable, in order that the army may be supplied without unnecessary delay with the most approved fire arm. The arm selected by the board

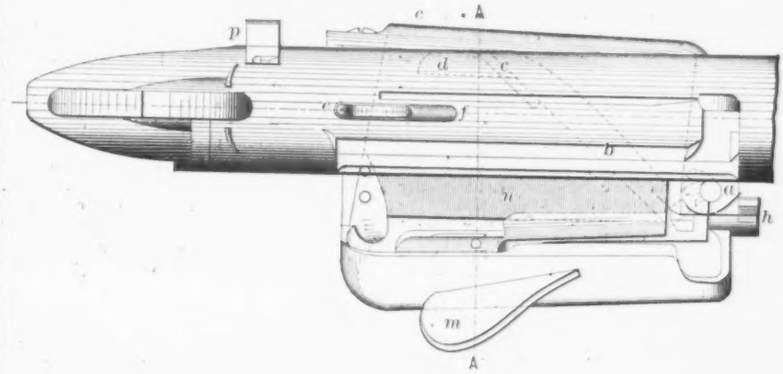


Fig. 3.

undoubtedly fulfills all the essential conditions required at the present time in such a weapon." To this the Acting Secretary has assented in the following terms: "Approved, as recommended by the Chief of Ordnance and the Major General commanding. Let the board be dissolved."

Report of the Board.

OFFICE OF THE BOARD ON MAGAZINE ARMS,
ARMORY BUILDING,
NEW YORK CITY, August 19, 1892.

The board was originally constituted by General Orders No. 136, Headquarters of the Army, Adjutant-General's office, November 24, 1890; changes were subsequently made in its composition by the following special orders from Army Headquarters, viz.: No. 289, December 11, 1890; No. 153, July 6, 1891; No. 284, December 7, 1891, and No. 17, January 21, 1892.

The board met at the Army Building, New York City, December 16, 1890, and has since continued in session from time to time whenever any arms were on hand ready for trial, or there was other matter pending to engage its attention. The period for the original submission of guns was limited by the Secretary of War to July 1, 1892, though arms withdrawn for correction might, in the discretion of the board, be received later—of this latter privilege advantage has been fully taken.

The original order required the board "to consider and recommend a suitable magazine system for rifles and carbines for the military service."

Subsequent instructions (see in record of proceedings those for November 3, 1891) required an opinion as to the merits of the caliber 0.30 Springfield single loader and its ammunition, and also (see in record of proceedings those for June 30, 1892) an "opinion as to the relative merits of a magazine arm and a single loader for use in the United States service."

The first of the above-mentioned opinions was submitted soon after it was required and will be found in the proceedings of the board for November 3, 1891; and a supplementary report was rendered July 28, 1892 (see proceedings for that day). Upon the other matters the board now reports as follows: In all 53 guns have been subjected to trial, including, besides the product of different private inventors, both American and foreign, the small arms officially adopted for the armies of the following countries, viz.: Austria-Hungary, Belgium, Denmark, England, France (for cavalry), Germany, Japan, Portugal, Roumania, Russia and Switzerland.

Each of the different magazine guns examined can be placed in one or two general classes, dependent upon the manner in which their fire can be delivered.

1. Those which while the magazine is charged cannot be used as single loaders. These arms should more properly be termed repeating guns.

2d. Those in which the magazine can be charged and then held in reserve while single fire is delivered, magazine fire being, however, available at any moment.

Therefore guns of the first class can be employed as single loaders only when the magazine is empty; those of the second class when it is either empty or loaded.

The small arms of Austria-Hungary, Germany and Roumania are typical of the first class; for them the cartridges are habitually carried in the ammunition trains, and by the soldier in packets of five, the packet being introduced bodily into the magazine.

Typical of the second class are the small arms of Denmark, England and Switzerland and the improved Mauser gun. With the best developed of this class the cartridges are carried by the soldier both singly and in packets, the latter being employed to facilitate rapid charging of the magazine, though not essential thereto.

This classification compelled the board to consider not merely the mechanical features of the guns it has examined, but also their merits and defects as an armament; but from such considerations the board is of the opinion that the magazine systems of the second class are more "suitable" for our service than those of the merely repeating type.

A number of guns of both classes were subjected to the supplementary examination and test, the Springfield 0.30 single loader being introduced as a standard of comparison.

These and the previous trials showed to the entire satisfaction of the board that the bolt system of breech closure, as developed in the last few years, and particularly for arms of the reduced caliber, is superior as a single loader in ease of manipulation, facility of loading and rapidity of fire to an arm on the block system, like the Springfield, and has the additional advantage that without sacrificing any of its features it is also adaptable to use as a magazine arm.

Added to the differences of breech mechanism brought before the board, there has been a further complication of the subject incident to the cartridge employed; these have had flanges like those at present in our service, while others have been flangeless with cannelured heads.

Attendant upon the manufacture of the latter, and exact adjustment to the guns in which they might be used, are many difficulties not experienced in the manufacture and use of the flanged shell.

Recognizing all these conditions, the board has unanimously arrived at the conclusion that an arm showing itself to be an efficient single loader, a rapid magazine arm, holding meanwhile that magazine in reserve with a cut off plainly indicating to the officers which class of fire is being delivered, and a system adaptable to either a headed or a flangeless shell, was the most "suitable" for our military service of all examined.

Such a system is found in the Krag-Jorgensen guns as improved and ultimately submitted to the board.

Two of these guns were finally examined, one taking a flanged, the other a rimless shell; they appear to be of equal merit, but on account of the difficulties that might possibly attend the use of the latter class of cartridge, the board recommends the adoption of the gun for the flanged head known on its records as Krag-Jorgensen, No. 5.

This arm is a decided modification of and an improvement upon the weapon of the same name now in use in Denmark.

As to the "relative merits of the magazine arm and a single loader for use in the United States service" the board deems that its opinion has been already expressed in the previous remarks, but that no doubt may exist as to its position the board adds that it considers such an arm as this Krag-Jorgensen, No. 5, which is capable in a high degree of both single loading and magazine fire, to be vastly superior for use in the United States service to any weapon adapted to single loading fire only.

ROBERT H. HALL,
Lieutenant-Colonel, Sixth Infantry.
J. P. FARLEY,
Lieutenant-Colonel Ord. Dept., U. S. Army.
H. B. FREEMAN,
Major Sixteenth Infantry.
S. E. BLUNT,
Captain Ordnance Department, U. S. Army.
GEORGE S. ANDERSON.
Captain Sixth Cavalry.

The authorities at Washington are preparing blanks for distribution to collectors of revenue in the Canadian and Mexican branches of the export trade, to insure greater accuracy in export statistics. The new regulations will not take effect soon enough to cover the entire trade for the present fiscal year, but they will cover at least two-thirds of it, and full and accurate returns will be obtained for the next fiscal year. It is estimated that $20,000,000 more goods are exported to Mexico than appear in our Custom House returns, and the estimate is borne out by the import statistics of the Mexican Government. There is a like loss on exports into Canada, many of them destined for China and Japan over the Canadian Pacific Railway. The addition of $40,000,000 per year to our present official returns of exports will raise them more than 4 per cent. and will swell the balance of trade by a like amount.

The new train shed of the Pennsylvania Railroad in Philadelphia will be 306 feet long and 140 feet wide, and over 6,000,000 pounds of iron will be used in its construction. The manner of erecting the roof will be something similar to that used in the construction of the Pennsylvania Railroad depot at Jersey City. There will be temporary posts erected to support the new roof, and from each post arms will extend in a diagonal direction, which will also be used to give support to the new iron work.

The growth of steamship traffic and the commercial importance of New York are alike indicated by the fact that on almost any day the maritime records show that 100 steamships are out on the wide ocean from various parts of the world, all headed for this port.

JOHN FRITZ.

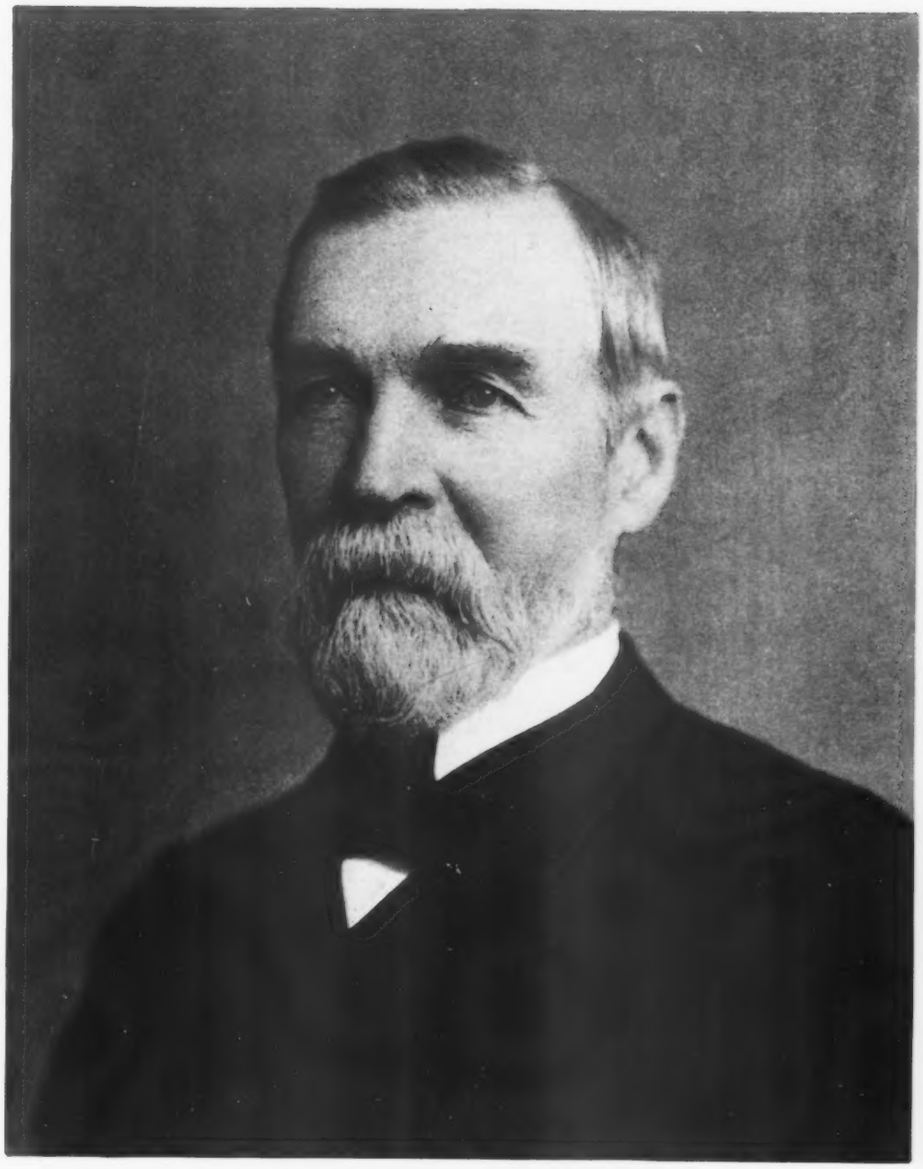
A Tribute to a Great Engineer.

(With portrait.)

There has never before in this country been a gathering of men representative of modern progress in engineering and manufacture like that which assembled in South Bethlehem, Pa., on Wednesday, September 28, to do honor to John Fritz, the superintendent of the Bethlehem Iron Company. During the summer a number of the more intimate friends of the great metallurgist and engineer, fellow-members of the Engineers' Club of New York, discussed the possibility of arranging for some public celebration of his seventieth birthday. It was learned that Mr. Fritz had expressed his disapproval of plans made by others, and notably by the workmen in his employ, to present him with a testimonial, but he soon succumbed to the arguments brought forward by J. F. Holloway, president of the Engineers' Club. A committee was formed consisting of J. F. Holloway, New York; Robert W. Hunt, Chicago; James Moore, Philadelphia; S. T. Wellman, Thurlow, Pa.; Eckley B. Coxe, Drifton, Pa.; S. W. Baldwin, New York; Robert P. Linderman, Bethlehem, Pa.; E. D. Leavitt, Boston; Oliver Williams, Catasauqua; W. H. Wiley and C. Kirchhoff, New York.

The plan to hold a reception on the birthday of John Fritz in August was quickly abandoned, on account of the numerous protests on the part of those whom absence abroad or in distant parts of the country during the vacation period would prevent from joining. The project was allowed to rest, ostensibly, although preparations for its execution went on quite vigorously in a quiet way. What had been feared was only too quickly realized. The number of those eager to honor the veteran engineer was so large that successively two rooms chosen had to be given up, and the Fountain Hill Opera House in South Bethlehem was secured. The resources of the town for the accommodation was taxed to the utmost, although many were received as guests of leading citizens. Special cars from New York and Philadelphia brought the delegations from those cities, and so perfect were the arrangements made by the local committee that no hitches whatever occurred, and the company gathered promptly around the tables, at which over 200 took seats. Among those present were:

R. A. Lamberton, president Lehigh University, South Bethlehem, Pa.
J. F. Holloway of the firm of H. R. Worthington, New York, N. Y.
Chas. H. Loring, president American Society Mechanical Engineers, Brooklyn, N. Y.
John Fritz, general superintendent Bethlehem Iron Company, South Bethlehem, Pa.
Com Geo. W. Melville, Engineer-in-Chief U. S. N., Washington, D. C.
Chas. E. Emery, consulting engineer, New York, N. Y.
James Moore, Bush Hill Iron Works, Philadelphia, Pa.
Henry Morton, Ph.D., president Stevens Institute, Hoboken, N. J.
Com. Wm. M. Folger, Chief Bureau of Ordnance, U. S. N., Washington, D. C.
John M. Hartman of Taws & Hartman, Philadelphia, Pa.
Geo. Brooke, president E. & G. Brooke Iron Company, Birdsboro, Pa.
Wm. Sellers, president Wm. Sellers & Co, Incorporated, Philadelphia, Pa.
E. D. Leavitt, mechanical engineer, Cambridgeport, Mass.
Joseph Wharton, director Bethlehem Iron Company, Philadelphia, Pa.
Robert Lockhart, South Bethlehem, Pa.
J. H. Biles, professor of naval architecture, Glasgow University, Glasgow, Scotland.
Washington Jones, Philadelphia, Pa.
Chas. H. Cramp, Wm. Cramp & Sons, Philadelphia, Pa.
C. F. Mattes, second vice-president Lackawanna Iron and Steel Company, Scranton, Pa.



John Fritz

Presses—

Fruit and Jelly—

Enterprise Mfg. Co. ..... 30&10@30%
Henls ..... ₱ doz $3.50
Shepard's Queen City 40%
Silver & Co. ..... ₱ doz $2.75

Pruning Hooks and Shears—See *Shears.*

Pullers, Nail—

Scranton ..... ₱ doz., $18.00, 33⅓%
Curtis Hammer ..... ₱ doz., $9.00
Giant, No. 1 ..... ₱ doz., $18.00, 10%
Giant, No. 2 ..... ₱ doz., $15.00, 10%
Pelican ..... ₱ doz., $9.00, 25%
Eclipse ..... Each, $2.00, net
Economy ..... ₱ doz., $6.00

Pulleys—

Hot House, Awning, &c. ..... 60&10%
Japanned Screw ..... 60&10%
Brass Screw ..... 60&10%
Japanned Side ..... 60&10%
Japanned Clothes Line ..... 60&10%
Empire Sash Pulley ..... 55&60%
Moore's Sash, Anti-Friction 50%
Hay Fork, Solid Eye, $4.00; Swivel, $4.50 ..... 50&10&10&5%
Hay Fork, "Anti-Friction," 5 in. solid, $5.70 ..... 50%
Hay Fork, "F" Common and Patent Bushed 20%
Hay Fork, Tarbox Pat. Iron 20%
Hay Fork, Reed's Self-Lubricating 60%
Shade Rack 45%
Tackle Blocks—See Blocks.
Moore's Anti-Friction 5 in. Wheel, ₱ doz., $12.00 ..... 40%

Pumps—

Cistern, Best Makers ..... 60@60&10%
Pitcher Spout, Best Makers ..... 67½@70%
Pitcher Spout, Cheaper G'ds ..... 75@75&10%

Punches—

Saddler's or Drive, good ..₱ doz., 60@65%
Bemis & Call Co.'s Cast Steel Drive ..50&5%
Bemis & Call Co.'s Springfield Socket ..... 50&5%
Spring, good quality ..₱ doz., $2.50@$2.60
Spring, Leach's Pat 15%
Bemis & Call Co.'s Spring and Check ..40%
Solid Tinners', P., S. & W. Co., ₱ doz., $1.44 ..... 55%
Tinners' Hollow Punches, P., S. & W. Co. ..... 20&2%
Rice Hand Punches 15%
Avery's Revolving 40%
Avery's Sawset and Punch—See Sawsets.

Rail—

Sliding Door, Wr't Brass ..₱ ft., 35¢, 40%
Sliding Door, Bronzed Wr't Iron ..₱ ft., 7¢
Sliding Door, Iron, Painted ..₱ ft., 4¢, 40%
Barn Door, Light..In. ¾ 1
Per 100 feet $2.00 2.50 3.10, 10%
B. D. for N. E. Hangers—
Small. Med. Large.
Per 100 feet ..... $3.15 2.70 3.25 Net
Terry's Steel Rail ..... ₱ ft., 4½¢
Victor Track Rail, 7¢ ₱ foot ..... 50&2%
Carrier, double braced, Steel Rail, ₱ foot ..... 4@4½¢
Moore's Wrought Iron 25%
Moody Steel Rail 45%

Rakes—

Cast Steel, Association goods ..66⅔@70%
Cast Steel, outside g'ds, 60&10&10@70&5%
Malleable ..... 70@70&5%
Gibbs Lawn Rake ..... ₱ doz., $4.90
Canton Lawn Rake ..... ₱ doz., $3.75
Favorite Lawn Rake ..... ₱ doz., $4.40
Oneida Lawn Rake ..... ₱ doz., $6.00
Fort Madison Prize Bow Brace and Peerless 65%
Fort Madison Steel Tooth Lawn Rake, $6.00 ..... 25%

Razors—

J. R. Torrey Razor Co 20%
Wostenholm and Butcher, $10 to £.... 10%
Jordan's AA1, new list ..... Net
Jordan's Old Faithful, new list ..... Net
Galvanic ..... ₱ doz., $15.00
Electric Cutlery Co. ..... Net
Campbell Cutlery Co. 50%

Razor Strops—

See *Strops, Razor.*

Rings and Ringers—

Bull Rings—

Union Nut Co. 55%
Sargent's ..... 75&10%
Hotchkiss' low list 30%
Humason, Beckley & Co.'s ..... 70&10%
Peck, Stow & W. Co.'s..50&10@50&10&10%
Ellrich Hdw. Co., White Metal, low list. 50@50&10%

Hog—

Top of the Hill Ringers ..... ₱ doz $2.00
Top of the Hill Rings ..... ₱ doz $1.25
Hill's Improved Ringers ..... ₱ doz $1.25
Hill's Old Style Ringers ..... ₱ doz $1.12½
Hill's Tongs ..... ₱ doz $3.00
Hill's Rings ..... ₱ doz bxs $1.00
Perfect Rings ..... ₱ doz bxs $1.50
Perfect Ringers ..... ₱ doz $2.15@$2.25
Blair's Hog Ringers ..... ₱ doz $2.00
Blair's Hog Rings ..... ₱ doz 90¢@$1.00
Champion Ringers ..... ₱ doz $2.00
Champion Rings, Double ..... ₱ doz $2.25
Brown's Ringers ..... ₱ doz $2.00
Brown's Rings ..... ₱ doz $1.15@$1.25
Electric Hog Rings ..... ₱ doz boxes $1.50
Electric Hog Ringers ..... ₱ doz $2.00
Major Rings ..... ₱ doz $1.25
Major Ringers ..... ₱ doz $2.00

Rivets and Burrs—

Iron, list Nov. 17, '87 ..... 40%
Copper ..... 60&10%
Coppered Iron, Bettina Brand 40%

Rivet Sets—See *Sets.*

Rods—

Stair, Brass ..... 25&2%
Stair, Black Walnut ..... ₱ doz 40¢

Rollers—

Barn Door, Sargent's list ..... 60&10&10%
Acme Moore's Anti-Friction 55%
Union Barn Door Roller 70%
Thompson Mfg. Co.,s Lawn Rollers ..30%

Rope—

Manila, 7-16 in. diam. and larger ₱ ℔ 12¼¢
Manila, ⅜ in. ₱ ℔ 12¾¢
Manila, ¼ and 5-16 in. ₱ ℔ 13¾¢
Manila, Tarred Rope ₱ ℔ 11¾¢
Manila, Hay Rope ₱ ℔ 12¼¢
Sisal, 7-16 inch and larger ₱ ℔ 10¼¢
Sisal, ⅜ in. ₱ ℔ 10¾¢
Sisal, ¼ and 5-16 in. ₱ ℔ 11¼¢
Sisal, Hay Rope ₱ ℔ 10¼¢
Sisal, Tarred Rope ₱ ℔ 9¾¢
Sisal, Medium Lath Yarn ₱ ℔ 9¾¢
New Zealand, 7-16 in. & larger ₱ ℔ 8¾¢
New Zealand, ⅜ inch, ₱ ℔ 9¼¢
New Zealand, ¼ and 5-16 inch, ₱ ℔ 9¾¢
New Zealand, Hay Rope ₱ ℔ 8¾¢
New Zealand, Tarred Rope ₱ ℔ 8¾¢
Note.—Manufacturers' prices on above 1¢ ₱ ℔ less, f.o.b. factory—less 1½ % for cash.
Cotton Rope ..... ₱ ℔ 13½@16¢
Jute Rope ..... ₱ ℔ 6½@7¢

Wire—

List February, 1892.
All kinds 45%

Rules—

Boxwood ..... 80&10&10%
Ivory ..... 50@50&10%
Starrett's Rules and Straight Edges, Steel ..... 25&10%

Sad Irons—See *Irons, Sad.*

Sand and Emery Paper and Cloth—

See *Paper and Cloth.*

Sash Cord—See *Cord, Sash.*

Sash Locks—See *Locks, Sash.*

Sash Weights—

See *Weights, Sash.*

Sausage Stuffers or Fillers—See *Stuffers or Fillers, Sausage.*

Saws—The following prices are often cut by jobbers.

Disston's Circular ..... 45@45&5%
Disston's Cross Cut ..... 45@45&5%
Disston's Hand 25%
Woodrough & McParlin.
Hand, Panel and Rip ..... 30@30&5%
Narrow Champion Cross Cuts with Handles, ₱ foot ..... 18@20¢
Champion Thin Back Cross Cuts, ₱ foot ..... 26@28¢
Champion Extra Thin Back Cross Cuts, ₱ foot ..... 29@31¢
One Man Champion Cross Cuts, ₱ foot ..... 37@40¢
Wheeler, Madden & Clemson Mfg. Co.
Hand, Panel and Rip ..... 35@35&5%
Narrow Champion Cross Cuts with Handles, ₱ foot ..... 18@20¢
Champion Thin Back Cross Cuts, ₱ foot ..... 26@28¢
Champion Extra Thin Back Cross Cuts, ₱ foot ..... 29@31¢
One Man Champion Cross Cuts, ₱ ft.. 37@39¢
Atkins' Circular Shingle & Heading..50%
Atkins' Silver Steel Diamond X Cuts ₱ foot 70¢
Atkins' Special Steel Dexter X Cuts ₱ foot 50¢
Atkins' Special Steel Diamond X Cuts ₱ foot 32¢
Atkins' Champion and Electric Tooth X cuts ..... ₱ foot 30¢
Atkins' Hollow Back X Cuts... ₱ foot 20¢
Atkins' Mulay, Mill and Drag 40%
Atkins' One-Man Saw, with handles, ₱ foot 40¢
Peace Circular and Mill ..... 45@45&5%
Peace Hand Panel and Rip ..... 25@25&5%
Peace Cross Cuts ..... 45@45&5%
Richardson's Circular and Mill..45@45&5%
Richardson's X Cuts ..... 45@45&5%
Richardson's Hand, &c. ..... 25@25&5%
C. E. Jennings & Co. Hand, Panel and Rip ..... 25@25&10%

Hack Saws—

Griffin's, complete ..... 40&10@50
Griffin's Hack Saw Blades ..... 40&10@50
Star Hack Saws and Blades 25%
Eureka and Crescent 25%

Scroll—

Lester, complete, $10.00 ..... 25%
Rogers, complete, $4.00 ..... 25%
Barnes' Builders' and Cab Makers' $15,25%
Barnes' Scroll Saw Blades 35%

Saw Frames—

See *Frames, Saw.*

Saw Sets—See *Sets, Saw.*

Saw Tools—See *Tools, Saw.*

Scales—

Hatch, Counter, No. 171, good quality, ₱ doz $21.00
Hatch, Tea, No. 161 ..₱ doz $6.75@$7.00
Union Platform, Plain ..... $2.10@2.20
Union Platform, Striped ..... $2.40@2.50
Chatillon's Grocers' Trip Scales 50%
Chatillon's Eureka 25%
Chatillon's Favorite 40%
Family, Turnbulls ..... 30@30&10
Riehle Bros.' Platform 40%

Scale Beams—

See *Beams, Scale.*

Scissors, Fluting 45%

Scrapers—

Adjustable Box Scraper (S. R. & L. Co.) $6.50 ..... 30&10%
Box, 1 Handle ..... ₱ doz $4.00..10%
Box, 2 Handle ..... ₱ doz $6.00..10%
Defiance Box and Ship ..... 20&10%
Foot ..... 50&10&60%
Ship, Common ..... ₱ doz $3.50 net
Ship, R. I. Tool Co. 10%

Screen Window and Door Frames—See *Frames.*

Screw Drivers—

See *Drivers, Screw.*

Screws—

Bench and Hand—

Bench, Iron ..... 55&10@55&10&10%
Bench, Wood, Beech ..... ₱ doz $2.25
Bench, Wood, Hickory ..... 20&10%
Hand, Wood ..... 25&10@25&10&5%
Hand, Grand Rapids, list 35%
Lag, Blunt Point, list Jan. 1, 1890..75&10%
Coach and Lag, Gimlet Point, list Jan. 1, 1890 ..... 75@75&10%
Bed ..... 25&5%
Hand Rail, Sargent's ..... 70&10%
Hand Rail, H. & F. Mfg. Co....70&10@75%
Hand Rail, Am. Screw Co. 75%
Jack Screws, Millers Falls list..50@50&5%
Jack Screws, P., S. & W. 35%
Jack Screws, Sargent 70%
Jack Screws, Stearns' ..... 40@40&10%

Cork—

Humason & Beckley Mfg. Co..40&10@50%
Williamson's ..... 33⅓@33⅓&5%
Howe Bros. & Hulbert 35%

Machine—

Flat Head Iron 65%
Round Head Iron 60%

Wood—

List January 1, 1891.

Flat Head Iron	70%
Round Head Iron	65%
Flat Head Brass	70%
Round Head Brass	65%
Flat Head Bronze	70%
Round Head, Bronze	65%
Rogers' Drive Screws	82½%

Extra 10@10 & 5% often given.

Scroll Saws—See *Saws, Scroll.*

Scythes—

Grain ..... 40&5@40&10%
Grass ..... 40&10&50%

Scythe Snaths—

See *Snaths, Scythe.*

Sets—

Awl and Tool—

Aiken's Sets, Awls and Tools, No. 20, ₱ doz $10.00 ..... 55&10%
Fray's Adj. Tool Hdls., Nos. 1, $12; 2, $18; 3, $12; 4, $9 ..... 45%
Millers Falls Adj. Tool Hdls. Nos. 1, $12; 2, $18 ..... 25%
Henry's Combination Haft... ₱ doz $6.50
Stanley's Excelsior:
No. 1, $7.80; No. 2, $4.00; No. 3, $5.50 ..... 30&10%
Common Brad Sets, No. 42, $10.50; No. 43, $12.50...70&10&5%

Nail—

Square ..... ₱ gr. $4.00@$4.25
Round ..... ₱ gr. $3.25
Buck Bros. 27½%
Cannon's Diamond Point... ₱ gr. $12, 20%

Rivet—

Regular list ..... 50&10%

Saw—

Stillman's Genuine.... ₱ doz $5.00@7.75, 40&5%
Stillman's Pattern, Hand, ₱ doz $3.25; Cross Cut, $5.25 ..... 55%
Common Lever ..₱ doz $2.00, 45@50%
Morrill's No. 1, $12.00 ..... 40&20%
No. 11, $15.00 ..... 40&10&40&20%
Nos. 3 and 4, $18.00 ..... 40&5%
No. 5, $24.00 ..... 40&5%
Leach's..No. 0, $8.00; No. 1, $15...15@20%
Nash's ..... 20&10@20&10&10
Hammer, Hotchkiss $5.50, 10%
Hammer, Bemis & Call Co.'s new Pat., ... 30@5%
Bemis & Call Co.'s Lever and Spring Hammer ..... 30&5%
Bemis & Call Co.'s Plate 10%
Bemis & Call Co.'s Cross Cut 12½%
Aiken's Genuine ..... $13.00, 50&10@60%
Aiken's Imitation ..... $7.00, 55&5%
Hart's Pat. Lever 20%
Disston's Star 25%
Leopold ..... 40&10@50%
Atkin's Lever ..₱ doz No. 1, $6.00
Atkin's Criterion ..₱ doz No. 1, $6.00
Croissant (Keller), No. 1, $15.00; No. 2, $24.00 ..... 40&10%
Avery's Saw Set and Punch 50%
Chieftain Co.'s Superior ..... ₱ doz $7.00
Chieftain Co.'s Royal ..... ₱ doz $7.50
Crescent ..... ₱ doz $3.00
Lloyd's Acme ..... ₱ doz $15, 40&10%
Taintor Positive ..... ₱ doz $18, 50%

Sharpeners, Knife—

Larkins'.
Applewood Handles... ₱ doz. $6.00, 40%
Rosewood or Cocobola. ₱ doz. $9.00 40%

Shaves, Spoke—

Iron 45%
Wood 30%
Bailey's (Stanley R. & L. Co.) ..... 40&10%
Stearns' ..... 30&10%
Cincinnati ..... 25&10%
Goodell's ₱ doz. $9.00 ..... 25%

Shears—

American (Cast) Iron..75&10@75&10&5%
Barnard's Lamp Trimmers.. ₱ doz. $3.75
Tinners' ..... 20&2%
Seymour's, List Dec. 1881. 60&10&10@60&10&10&5%
Heinisch's, List Dec. 1881. 60&10&10@60&10&10&5
Heinisch's Tailor's Shears ..... 33⅓&5
Cast Steel Trimmers:
First quality ..... 80@80&10%
Second quality ..... 80&10@80&10&10%
Acme Cast Shears ..... 10&10%
Diamond Cast Shears 10%
Clipper ..... 10&10%
Victor Cast Shears ..... 75&10@75&10&5%
Howe Bros. & Hulbert, Solid Forged Steel 40%
Chicago Drop Forge & F. Co, Solid Steel Forged 60%
Davenport Cutlery Co. ..... 60@60&10%
Clauss Shear Co., Japanned 70%
Clauss Shear Co., Nickeled, same list..60%
Galvanic 3½ to 9 in., ₱ doz. $1.00 ₱ inch
Electric Cutlery Co ..... Net
Campbell Cutlery Co., Jap'd 75%
Nickel Plated 65%

Pruning Shears and Hooks.

Disston's Combined Pruning Hook and Saw ..... ₱ doz. $18.00, 20&10%
Disston's Pruning Hook, ₱ doz. $12.00 20&10%
E. S. Lee & Co.'s Pruning Tools 40%
Pruning Shears, Henry's Pat., ₱ doz. $3.75@$4.00
Henry's Pruning Shears, ₱ doz. $4.25 @$4.50
Wheeler, M. & C. Co., Combination, ₱ doz $12.00, 20%
Dunlap's Saw and Chisel, ₱ doz $8.50, 30%
J. Mallinson & Co., No. 1, $5.25; No. 2, $7.25
P., S. & W. Co. 60%

Tinners', &c.—

Shears and Snips (P. S. & W.) ..... 20@25%
Snips, J. Mallinson & Co. 33⅓%

Sheaves—

Sliding Door—

M. W. Co., list July, 1888....50&10@60&5%
R. & E., list Dec. 18, 1885 ..... 55&20%
Corbin's list ..... 60&10&2%
Patent Roller ..... 60&10&2%
Patent Roller, Hatfield's 75%
Russell's Anti-Friction, list Dec. 18, 1885 ..... 60&2%
Moore's Anti-Friction 50%

Sliding Shutter—

R. & E., list Dec. 18, 1885 ..... 60&10&2%
Sargent's list 70%
Reading list ..... 60&10&10%

Shells—

First quality 4, 8, 10 and 12 gauge 25&10&2%
First quality Rival, Club and Climax brands, 14, 16 and 20 gauge ($7.50 list) ..... 20&10&2%
Prize ..... 40&2%
Star, Club, Rival and Climax Brands... 33⅓&10&2%
Smokeless brand, 12, 10, 16 gauge. 33⅓&10&2%
Trap brand, 12 and 10 gauge..33⅓&10&2%
Selbold's Comb. Shot Shells ..... 15&2%
Brass Shot Shells, 1st quality ..... 60&2%
Brass Shot Shells, Club, Rival, Climax. 65&2%

Shells Loaded—

Standard List, July 19, 1890 ..... 40&10&10@40&10&10&5%

Ship Tools—

L. & I. J. White ..... 20&5%

Shoes, Horse, Mule, &c.—

Horse—

Burden's, Perkins', Phœnix, Diamond State & Bryden's Boss, at factory..$4.00
Bryden's Frog Pressure, at factory..$5.00

Mule—

Add $1 ₱ keg to above prices.

Ox Wrought—

Ton lots ..... ₱ ℔ 9¢
1000 ℔ lots ..... ₱ ℔ 9½¢
500 ℔ lots ..... ₱ ℔ 10¢

Shot—

	Ton lots	Small lots
Drop, up to B, 25-℔ bag	$1.40	$1.45
Drop, up to B, 5-℔ bag	.35	.35
Drop, B and larger, 25-℔ bag	1.65	1.70
Drop, B and larger, 5-℔ bag	.40	.40
Buck and Chilled, 25-℔ bag	1.65	1.70
Buck and Chilled, 5-℔ bag	.40	.40
Dust Shot, 25-℔ bag	2.00	2.00
Dust Shot, 5-℔ bag	.45	.45

Shovels and Spades—

Ames' Shovels, Spades, &c., list Nov. 1, 1885 ..... 20%
NOTE.—Jobbers frequently give 5@7½% extra on above.
Griffith's Black Iron ..... 50&10%
Griffith's C. S. ..... 60@60&10%
Griffith's Solid C. S. R. R. Goods 20%
St. Louis Shovel Co. ..... 20@20&7½%
Hussey, Binns & Co. ..... 15@25%
Hubbard & Co. ..... 20@20&7½%
Lehigh Mfg. Co. ..... 50&10%
H. M. Myers Co. 30%
Payne Pettebone & Son ..... 33⅓&5%
Remington's (Lowman's Pat.)30&10@40%
Rowland's Black Iron ..... 50&10%
Rowland's Steel ..... 60&5@60&10%
Terra Haute Shovel & Tool Co. 25%

Shovels and Tongs—

Iron Head ..... 60&10@60&10&5%
Brass Head ..... 60&10&10%

Sieves—

Mann's Tin Rim ..... 50&25%
Buffalo Metallic, S. S. & Co. ..... 50&25%
Shaker (Barler's Pat.) Flour Sifters ₱ doz $2.00; ₱ gr $21.60
Electric ..... ₱ gr $21.00
A. & W. Sifters ..... ₱ doz $2.00
Hunter's ..... ₱ doz $2.00

Sieves, Wooden Rim—

	Iron.	Plated.
Mesh 18, Nested, ₱ doz	$0.80	$1.00
Mesh 20, Nested, ₱ doz	.95	1.10
Mesh 24, Nested, ₱ doz	1.15	1.25

Skeins, Thimble—

Western list ..... 75&5@75&10%
Columbus Wrt. Steel..Special net prices
Coldbrookdale Iron Co. 60%
Seneca Falls Pattern 60%
Utica P. S. T. Skeins 60%
Utica Turned and Fitted 35%

Slates—

School, by case ..... 50&10@50&10&10%

Snaps, Harness, &c.—

Anchor (T. & S. Mfg. Co.)....65%
Fitch's (Bristol)....50&10%
Hotchkiss....10%
Andrews....50%
Sargent's Patent Guarded....70&10&10%
German, new list....40&10%
Covert....50&10&5&2%
Covert, New Patent....50&10&5&2%
Covert, New R. E....60&10&5&2%
Covered Spring....60&10&10%
Covert's Saddlery Works' Triumph..33⅓&5

Snaths, Scythe—

List....50@50&5%

Soldering Irons—

See *Irons, Soldering.*

Spittoons, Cuspidors, &c.

Standard Fiberware—

Cuspidors, 8½-inch, ₱ doz., No. 5, $8; No. 5X, $9.
Spittoons, Daisy, 8-inch, No. 1, $4; 10 and 11 inch, $6.

Spoke Shaves—

See *Shaves, Spoke.*

Spoke Trimmers—

See *Trimmers, Spoke.*

Spoons and Forks—

Tinned Iron—

Basting, Cen. Stamp. Co.'s list....70&10%
Solid Table and Tea, Cen. Stamp. Co.'s list....70&10%
Buffalo, S. S. & Co....33⅓&2%

Silver Plated—

4 months or 5% cash 30 days:
Meriden Brit. Co., Rogers....40&15%
C. Rogers & Bros....40&15%
Rogers & Bros....40&15
Reed & Barton....40@40&5%
Wm. Rogers Mfg. Co....40, 15&5%
Simpson, Hall, Miller & Co....40, 15&5%
Holmes & Edwards Silver Co....40, 15&5%
L. Boardman & Son....50&12½%

Miscellaneous—

Holmes & Edwards Silver Co.:
No. 67 Mexican Silver....50&10&5%
No. 30 Silver Metal....50&10&5%
No. 24 German Silver....50&10&5%
No. 50 Nickel Silver....50&5%
No. 49 Nickel Silver....50&10&5%

Wm. Rogers Mfg. Co.:
Rogers' Silver Metal....50&10&5%
18% Rogers' German Silver....60&5%
22% Rogers' Nickel Silver....50&5%
German Silver....50&50&5%
German Silver, Hall & Elton..50&5% cash
Nickel Silver....50&5&50&10&5% cash
Brittannia....60@6%&5%
Boardman's Nickel Silver, list July 1, 1891....60&7½&5%
Boardman's Brittannia Spoons, case lots....60&5% cash

Springs—

Door—

Torrey's Rod, 39 in....₱ doz $1.20@1.25
Gray's, ₱ gr. $20.00....25%
Bee Rod, ₱ gr., $20.00....20@25%
Warner's No. 1, ₱ doz $2.50; No. 2, $3.30....50&50&5%
Gem (Coil), list April 19, 1886....10&15%
Star (Coil), list April 19, 1886....20@25&5%
Victor (Coil)....60&10&60&10&5%
Champion (Coil)....60&10@60&10&10%
Cowell's, No. 1, ₱ doz $18.00; No. 2, $15.00....50&50&10%
Rubber, complete, ₱ doz $4.50....55&10%
Hercules....50&50&10%

Carriage, Wagon, &c.—

Elliptic, Concord, Platform and Half Scroll....60&10&10%
Cliff's Bolster Springs....25%

Squares—

Steel and Iron....
Nickel-Plated....85@85&5%

Try Square and T Bevels....60&10&10%
Disston's Try Square and T Bevels....50%
Winterbottom's Try and Miter....30&10%
Starrett's Micrometer Caliper Squares....25%
Avery's Flush Bevel Squares....40%
Avery's Bevel Protractor....50%

Squeezers—

Fodder—

Blair's....₱ doz $2.00
Blair's "Climax"....₱ doz $1.25

Lemon—

Porcelain Lined, No. 1....₱ doz $6.00 25&30%
Wood, No. 2....₱ doz $3.00, 35%
Wood, Common....₱ doz $1.70@1.75
Dunlap's Improved....₱ doz $3.75, 20%
Sammis....No. 1, $5.00; No. 2, $4; 12, $18 ₱ doz....25&10%
Jennings' Star....₱ doz $2.50
The Boss....₱ doz $2.50
Dean's..Nos. 1, ₱ doz $6.50; 2, $3.35; 3, $1.90; Queen, $2.50
Little Giant....50&50&5%
King....40&5%
Hotchkiss Straight Flash....₱ doz $12.00
Silver & Co., Glass....₱ gro. $9.00
Manny Lemon Juice Extractor:
Standard....₱ doz $0.75@$1.00
Improved....₱ doz $2.00

Standard Fiber Ware—

See *Ware, Standard Fiber.*

Staples—

Blind—

Barbed, ⅛ in. and larger....₱ ℔ 7@7½¢
Barbed, ¾ in....₱ ℔ 8@8½¢

Fence Staples, Galvanized. } Same price
Fence Staples, Plain.... } as B'rb Wire
See Trd. Rep

Steelyards....40&10@50%

Stocks and Dies—

Blacksmith's:
Waterford Goods....35%
Butterfield's Goods....35%
Lightning Screw Plate....25@30%
Reece's New Screw Plates....25@30%
Reversible Ratchet....30%
Gardner....25%
Green River....25@30%

Stops, Bench—

Morrill's....₱ doz $9, 50%
Hotchkiss's....₱ doz $5, 10&10&10%
Weston's, No. 1, $10; No. 2, $9, 25&10&5%
McGill's, ₱ doz $3....10%
Cincinnati....25&10%
Terrell's Nos. 1 and 2, ₱ doz., $3; No. 3, $3.00....30%

Stone—

Sythe Stones—

Pike Mfg. Co., list April, 1892....33⅓%

Oil Stones, &c.—

Pike Mfg. C.:	Price ₱ ℔	
Hindostan No. 1	.8¢	Dis. 40 & 10&10%
Sand Stone	.5¢	
Washita Stone, Extra	.50¢	
Washita Stone, No. 1	.40¢	
Washita Stone, No. 2	.30¢	
Washita Slips, Extra	.80¢	
Washita Slips, No. 1	.70¢	
Arkansas Stone, No. 1, 3 to 5½ in.,	$2.80	
Arkansas Stone, No. 1 5½ to 8 in.,	$3.50	
Turkey Oil Stone, 4 to 8 in	.80¢	
Turkey Slips	$2.00	

Lake Superior, Chase....₱ ℔ 13¢
Lake Superior Slips, Chase....₱ ℔ 20¢

Stove Polish—

See *Polish, Stove.*

Stretchers, Carpet—

Cast Steel, Polished....₱ doz $2.25
Cast Iron, Steel Points....₱ doz 80¢
Socket....₱ doz $1.75
Bullard's....25@25&10%

Strops, Razor—

Genuine Emerson....60@60&5%
Imitation " ..₱ doz $2.00, 20&10&5%
Torrey's....20%
Badger's Belt and Com....₱ doz $2.00
Lamont Combination....₱ doz $4.00
Jordan's Pat. Padded, list Nov. 1, '89, 50%
Electric Cutlery Co....Net
Campbell Cutlery Co....Net

Stuffer or Fillers, Sausage—

Miles' Challenge, ₱ doz $20....50@50&5%
Perry....₱ doz, No. 1, $15.00; No. 0, $21.00....50&5%&50&10%
Draw Cut No. 4, each $30.00....20%
Enterprise Mfg. Co....20&10@30%
Silver's....40&10%

Sweepers, Carpet and Lawn—

Carpet—

Bissell No. 5....₱ doz $17.00
Bissell No. 8....₱ doz $20.00
Bissell, Grand....₱ doz $36.00
Standard....₱ doz $24.00
Domestic....₱ doz $21.00
Domestic, No. 2....₱ doz $22.00
Grand Rapids....₱ doz $24.00
Crown Jewel, No. 1, $18.00; No. 2, $19.00; No. 3, $20.00
Magic....₱ doz $15.00
Improved Parlor Queen,
Nickeled....₱ doz $27.00
Japanned....₱ doz $24.00
Excelsior....₱ doz $22.00
Garland....₱ doz $18.00
Parlor Queen....₱ doz $24.00
Housewife's Delight....₱ doz $15.00
Queen....₱ doz $16.00
Queen, with band....₱ doz $18.00
King....₱ doz $30.00
Wood, Improved....₱ doz $18.00
Hub....₱ doz $16.00
Cog-Wheel....₱ doz $16.00
Easy....₱ doz $22.00
Monarch....₱ doz $22.00
Goshen....₱ doz $21.00
Ladies' Friend....₱ doz $15.00
Advance....₱ doz $18.00
Supreme....₱ doz $22.00

Lawn—

Thompson Mfg. Co....30%

Tacks, Brads, &c.—

List October 19, 1889. Old established straight Weights. Short Weight goods are sold at lower prices.

Carpet Tacks—
American, Blued....66⅔%
American, Tin'd and Cop'd....70%
Steel, Bright and Blued....66⅔%
Steel, Tinned and Coppered....70%
Swedes Iron, Blued....72½%
Swedes Iron, Tinned....75%
American Iron Tacks, Domestic..66⅔%
Swedes Iron Tacks—
S. S., Blued....66⅔%
S. S., Tinned....70%
Lanc., Blued....55%
Lanc., Tinned....60%
Gimp and Lace Tacks—
S. S., Blued....62½%
S. S., Tinned....66⅔%
Lanc., Blued....55%
Lanc., Tinued....60%
Basket and Trimmers' Tacks—
Lanc....52½%
S. S....60%
Hungarian Nails....60%
Common and Patent Brads....55%
Leathered Tacks....10%
Brush Tacks, S. S....60%
Looking Glass Tacks, S. S....35%
Picture-Frame Points, S. S....35%
Finishing Nails....60%
Trunk and Clout Nails—
Black....62½%
Tinned or Coppered....66⅔%
Basket Nails....60%
Chair Nails....52½%
Cigar Box Nails....45%
Tin Capped Nails....50%

Extra discount 25&25%

Miscellaneous—

Double Point....90@90&10%
Wire Carpet Nails....50&10%
Plymouth Rock Steel Carget Tacks...25%

Wire Brads and Nails—

Steel-Wire Brads, R. & E. Mfg. Co.'s list 50&10%

See also *Nails, Wire.*

Tapes, Measuring—

American....40@40&5%
Spring....40%
Chesterman's, Regular list....25@30%

Thermometers—

Tin Case....80@80&10%

Thimble Skeins—See *Skeins.*

Ties, Bale—Steel.

Standard Wire, list....50&10&5%

Tinners' Shears, &c —

See *Shears, Tinners' &c.*

Tinware—

Stamped, Japanned and Pieced, list Jan 20, 1887....70&10@70&25%

Tire Benders, Upsetters, &c.—See *Benders and Upsetters, Tire.*

Tools—

Coopers'—

Bradley's....20%
Barton's....20@20&5%
L. & I. J. White....20&5%
Albertson Mfg. Co....25%
Beatty's....30%
Sandusky Tool Co....30@50&5%
Shaves Cincinnati Tool Co....20%

Lumber—

Ring Peavies, "Blue Line"..₱ doz $20.00
Ring Peavies, Common....₱ doz $18.00
Steel Socket Peavies....₱ doz $21.00
Mall. Iron Socket Peavies...₱ doz $19.00
Cant Hooks, "blue Line"....₱ doz $16.00
Cant Hooks, Common Finish..₱ doz $14.00
Cant Hooks, Mall. Socket Clasp, "Blue Line" Finish....$16.00
Cant Hooks, Mall. Socket Clasp, Common Finish....₱ doz $14.50
Cant Hooks, Clip Clasp, "Blue Line" Finish....₱ doz $14.00
Cant Hooks, Clip Clasp, Common Finish....₱ doz $12.00
Hand Spikes....₱ doz 6 ft., $15.00; 8 ft., $20.00
Pike Poles, Pike & Hook, ₱ doz, 12 ft., $11.50; 14 ft., $12.50; 16 ft., $14.50; 18 ft., $17.50; 20 ft., $21.50.
Pike Poles, Pike only, ₱ doz, 12 ft., $10.00; 14 ft., $11.00; 16 ft., $13.00; 18 ft., $16.00; 20 ft., $20.00.
Pike Poles, not ironed, ₱ doz, 12 ft., $6.00; 14 ft., $7.00; 16 ft., $9.00; 18 ft., $12.00; 20 ft., $16.00.
Setting Poles, ₱ doz, 12 ft., $14.00; 14 ft., $15.00; 16 ft., $17.00.
Swamp Hooks....₱ doz $18.00

Saw—

Atkins' Perfection....₱ doz $12.00
Atkins' Excelsior....₱ doz $6.00
Atkins' Giant....₱ doz $4.00

Tobacco Cutters—

See *Cutters, Tobacco.*

Transom Lifters—

See *Lifters, Transom.*

Traps—

Game—

Newhouse....40@40&5%
Oneida Pattern....70&10%
Game, Blake's Patent....40&10&5%

Mouse and Rat—

Mouse Wood, Choker, ₱ doz holes, 9¢@10¢
Mouse, Round Wire....₱ doz $1.50 10%
Mouse, Cage, Wire....₱ doz $2.50 10%
Mouse, Catch-'em-alive..₱ doz $2.50 15%
Mouse, Bonanza....₱ doz 0.90@$1.00
Rat, Decoy....₱ gr $10.00, 10%
Ideal....₱ gr $10.00
Cyclone....₱ gr $5.25
Hotchkiss Metallic Mouse, 5-hole traps, ₱ doz., 75¢; in full cases, ₱ doz.60@65¢
Hotchkiss Imp. Rat Killer....₱ gro $18.50
Hotchkiss New Rat Killer....₱ gro $16.50
Schuyler's Rat Killer....₱ gro $15.00

Triers—

Butter and Cheese....25%

Trimmers, Spoke—

Bonney's....₱ doz $10.00, 50%
Stearns'....20&10%
Ives', No. 1, $15.00; No. 2, $12.00 ₱ doz. 55&10%
Douglas'....₱ doz $9.00, 20%
Cincinnati....25%

Trowels—

Lothrop's Brick and Plastering, 20&10&5@35%
Reed's Brick and Plastering....15%
Disston's Br'k and Plastering..25&25&5%
Peace's Plastering....25@25&5%
Clement & Maynard's....30@20&5%
Rose's Brick....15@20%
Brade's Brick....25%
Worrall's Brick and Plastering....20%
Garden....70%
Cleves' Angle Trowel, ₱ gro, No. 1, $36; No. 2, $30; No. 3, $15. net @ 10%

Trucks, Warehouse, &c.—

B. & L. Block Co.'s list....40%
Thompson Mfg. Co....25%

Tubes, Boiler—

See Pipe.

Twine—

Flax Twine—

	BC.	R.
No. 9, ¼ and ⅛ ℔ Balls	25¢	31¢
No. 12, ¼ and ⅛ ℔ Balls	22¢	30¢
No. 18, ¼ and ⅛ ℔ Balls	20¢	29¢
No. 24, ¼ and ⅛ ℔ Balls	20¢	29¢
No. 36, ¼ and ⅛ ℔ Balls	18¢	28¢

No. 264 Mattrass, ¼ and ⅛ ℔ Balls 52@54¢
Chalk Line, Cotton, ⅛ ℔ Balls....25¢
Mason Line, Linen, ⅛ ℔ Balls....55¢
2-Ply Hemp, ¼ and ⅛ ℔ Balls (Spring Twine)....15¢
3-Ply Hemp, 1 ℔ Balls....16¢@16½¢
3-Ply Hemp, 1⅛ ℔ Balls....15¢@15½¢
Cotton Wrapping, 5 Balls to ℔..15¢@16¢
2, 3, 4 and 5 Ply Jute, ⅛ ℔ Balls....10¢
Wool....6½¢@6¾¢
Paper....13¢@14¢
Cotton Mops, 6, 9, 12 and 15 ₱ to doz..18¢

Vises—

Solid Box....50&10@50&10&5%

Parallel—

Fisher & Norris Double Screw....15&10%
Stephens'....25@30%
Parker's....20@25%
Wilson's....55%
Howard's....40%
Bonney's....40&10%
Millers' Falls....40@40&10%
Trenton....40&5@40&10%
Merrill's....15@20%
Sargent's....70&10%
Backus and Union....30%
Double Screw Leg....15&10%
Prentiss....20@25%
Simpson's Adjustable....40%
Moore's....20%
Massey Quick Action....20@25%

Saw Filers—

Bonney's, Nos. 2 & 3, $15.00....40&10%
Stearn's....33⅓&10@33⅓&10&10%
Stearn's Silent Saw Vises....33⅓@35%
Hopkins'....₱ doz $17.50, 10%
Reading....40&10%
Wentworth....20&10%

Miscellaneous—

Combination Hand Vises....₱ gr $42.00
Cowell Hand Vises....20%
Bauer's Pipe Vises....10%
Cincinnati....25&10%
Enterprise Pipe Vises, each....$3.00
Massey Combination Pipe....40%

Wads—Price Per M.

U.M.C.&W.R.A.—B. E., 11 up..	68¢
U.M.C.&W.R.A.—B. E., 9&10..	82¢
U.M.C.&W.R.A.—B. E., 8....	96¢
U.M.C.&W.R.A.—B. E., 7....	$1.10
U.M.C.&W.R.A.—P. E., 11 up..	1.15
U.M.C.&W.R.A.—P. E., 9&10..	1.50
U.M.C.&W.R.A.—P. E., 8....	1.70
U.M.C.&W.R.A—P. E., 7	1.80
Eley's B. E., 11 up	$1.70@$1.75
Eley's P. E., 11@20	3.00@ 3.25

Dis. 20&2½%

Wagon Boxes—

See *Boxes, Wagon.*

Washer Cutters—

See *Cutters, Washers.*

Wagon Jacks—

See *Jacks, Wagon.*

Ware, Hollow—

Cast Iron, Hollow—

Stove Hollow-Ware—
Ground....60&10%
Unground....60&10&10%
White Enameled Ware—
Maslin Kettles....75@75&5%
Boilers and Saucepans....00@60&5%
Tinned Boilers and S'pans....60@60&5%
Rustless Hollow Ware....50@50&5%
Gray Enameled Ware—
Stove....50%
Maslin Kettles....60&60&10%
Boilers and Saucepans....40&5%

Enameled—

Agate and Granite Ware, list Jan. 1, 1889....33⅓&10%
Ironclad Enameled Ware....dis 33⅓&10%

Kettles—

Galvanized Tea-Kettles—

Inch....	6	7	8	9
Each....	55¢	60¢	65¢	75¢

Standard Fiber—

	Per Doz. Plain.	Dec'r'd
Wash-Basins, 10½ in.	$2.00	$2.25
Wash-Basins, 12 in.	2.25	2.75
Keelers, 11¾ in.		4.00
Cuspidors		8.00
Spittoons, "Daisy," 8 in.	4.00	4.50
Peck Measure	4.00	
Half-peck Measure	3.50	

See also Pails.

Indurated Fiber.—

Spittoons No. 2, ₱ doz....$8.40
Basins, Ringed, ₱ doz., No. 2....3.00
Washtubs, Nested, Nos. 0, 1, 2 and 3 (4 pieces), ₱ nest....$7.50
Keelers Nested, Nos. 1, 2, 3 and 4 (4 pieces), ₱ nest....$2.90
Butter Bowls 15, 17 and 19-inch (3 pieces), ₱ nest....$1.70
Liquid Measures, pt., qt., 2 qt. and funnell (4 pieces), ₱ set....$1.60

25%

See also Pails.

Silver Plated, Hollow—

4 mo. or 5% cash in 30 days.

Reed & Barton
Meriden Britannia Co.
Simpson, Hall, Miller & Co.
Rogers & Brother
Hartford Silver Plate Co.
William Rogers Mfg. Co.

40&5%
40&5&5%

Commodore T. D. Wilson, Washington.
Oliver Williams, president Catasauqua Mfg. Company, Catasauqua, Pa.
John Birkinbine, president American Institute Mining Engineers, Philadelphia, Pa.
Jos. D. Weeks, Editor *American Manufacturer*, Pittsburgh, Pa.
Thomas A. Edison, Orange, N. J.
John Thomas, Thomas Iron Company, Hokendauqua, Pa.
Owen J. Conley, Ogden Mine, Ogden, N. J.
John Sellers, Jr., vice-president and treasurer Wm. Sellers and Co., Incorporated, Philadelphia, Pa.
E. S. Moffat, general manager Lackawanna Iron & Steel Company, Scranton, Pa.
B. F. Fackenthal, Jr., superintendent Durham Iron Works, Riegelsville, Pa.
E. C. Felton, Pennsylvania Steel Company, Steelton, Pa.
S. H. Chauvenet, Wellman Iron & Steel Company, Thurlow, Pa.
Marriott C. Smyth, president Latrobe Steel Works, Philadelphia, Pa.
E. H. Austin, Philadelphia, Pa.
R. F. Kennedy, the Steel Patents Company, Philadelphia, Pa.
David Townsend, Philadelphia, Pa.
Andrew Wheeler, Morris, Wheeler & Co., Philadelphia, Pa.
J. Price Wetherill, general manager Lehigh Zinc & Iron Company, South Bethlehem, Pa.
J. F. Wilcox, Pittsburgh Iron & Steel Engineering Company, Pittsburgh, Pa.
A. N. Cleaver, South Bethlehem, Pa.
Horace G. Lash, Carbon Iron Company, Pittsburgh, Pa.
Joseph Hartshorne, Pottstown Iron Company, Pottstown.
Geo. Barns, Philadelphia, Pa.
A. S. Patterson, Philadelphia, Pa.
E. S. Cramp, Wm. Cramp & Sons, Philadelphia, Pa.
Harry Hart, Bethlehem Iron Company, South Bethlehem, Pa.
David Reeves, Phœnix Iron Company, Philadelphia, Pa.
W. F. Durfee, engineer C. W. Hunt Company, Staten Island.
E. G. Spilsbury, general manager Trenton Iron Company, Trenton, N. J.
F. L. Neale, International Navigation Company, Philadelphia, Pa.
Chas. G. Roebling, John A. Roebling's Sons, Trenton, N. J.
David Williams, publisher *The Iron Age*, New York, N. Y.
Chas. Macdonald, president Union Bridge Company, New York, N. Y.
John Stanton, treasurer Atlantic & Central Mining Companies, New York, N. Y.
Geo. H. Babcock, Babcock & Wilcox Company, New York, N. Y.
Wm. A. Perry of Henry R. Worthington, New York, N. Y.
H. Stanley Goodwin.
Wm. H. Morris, president Pottstown Iron Company, Pottstown, Pa.
Geo. W. Maynard, mining engineer, New York, N. Y.
John Hughes, Hughes & Patterson, Kensington Rolling Mill, Philadelphia, Pa.
C. J. H. Woodbury, chief engineer Manufacturers' Mutual Fire Insurance Company, Boston, Mass.
H. S. Haines, vice-president and general manager Plant Investment Company, New York, N. Y.
N. H. Heft, New York, N. Y.
Wm. Chapman, Bethlehem, Pa.
Walter Wood, R. D. Wood & Co., cast-iron pipe manufacturers, Philadelphia, Pa.
Gen. W. E. Doster, Bethlehem, Pa.
H. W. Allison, general manager Allentown Rolling Mills, Allentown, Pa.
Horace L. Brooke, Baltimore, Md.
Oberlin Smith, president Ferracute Machine Company, Bridgeton, N. J.
Calvin Pardee, Philadelphia, Pa.
C. M. Dodson, Bethlehem, Pa.
Truman M. Dodson, Bethlehem, Pa.
James Fuller, McKee, Fuller & Co., Catasauqua, Pa.
Dr. R. W. Raymond, Secretary American Institute Mining Engineers, New York, N. Y.
R. H. Thurston, Sibley College, Cornell University, Ithaca, N. Y.
John Taylor, general traffic manager Philadelphia & Reading Railroad Company, Philadelphia, Pa.
J. Gilbert Sterling.
John I. Kinsey, master mechanic Lehigh Valley Railroad Company, Easton, Pa.
James Dougherty, Philadelphia, Pa.
Chas. Otis, Otis Steel Company, Cleveland, Ohio.
Jas. Christie, chief engineer Pencoyd Iron Works, Pencoyd, Philadelphia, Pa.
Lieut.-Com. Wm. Swift, Philadelphia, Pa.
Capt. R. A. Abbott, South Bethlehem, Pa.
J. F. Meigs, ordnance engineer, South Bethlehem, Pa.
J. C. Herr, Philadelphia, Pa.
Horace See, consulting engineer and naval architect, New York, N. Y.
Edwin Thomas, superintendent Pioneer Mining & Mfg. Company, Thomas, Ala.
Rev. Philip McEnroe, South Bethlehem, Pa.
Andrew Fletcher, W. & A. Fletcher Company, Hoboken, N. J.
Geo. D. McCreary, City Treasurer, Philadelphia, Pa.
Wm. Keyser, president Baltimore Copper Company, Baltimore, Md.
W. R. Tucker, secretary Board of Trade, Philadelphia, Pa.
C. P. Goss, treasurer Scovill Mfg. Company, Waterbury, Conn.
A. M. Mattice, chief engineer E. D. Leavitt, Cambridgeport, Mass.
W. A. Sweet, Sweet's Mfg. Company, Syracuse, N. Y.
A. S. Schropp, secretary Bethlehem Iron Company, South Bethlehem, Pa.
C. O. Brunner, treasurer Bethlehem Iron Company, South Bethlehem, Pa.
H. M. Boies, president Boies Steel Wheel Company, Scranton, Pa.
Sidney Broadbent, general superintendent Dickson Mfg. Company, Scranton, Pa.
C. L. Doolittle, Bethlehem, Pa.
A. J. Haws, president Citizens' National Bank, Johnstown, Pa.
Anthony Victorin, engineer at Watervliet Arsenal, West Troy, N. Y.
W. H. Wiley, publisher, New York, N. Y.
S. W. Baldwin, New York agent Pennsylvania Steel Company, New York, N. Y.
W. R. McIlvain, Wm. McIlvain & Sons, Reading, Pa.
C. Brodhead, Bethlehem, Pa.
H. G. Morris, engineer and machinist, Philadelphia, Pa.
T. F. Miller of Henry R. Worthington, New York, N. Y.
C. W. Nason, Nason Mfg. Company, New York, N. Y.
Capt. Ira McNutt, Ordnance Department, U. S. N., South Bethlehem, Pa.
Lieut. Karl Rohrer, Ordnance Department, U. S. N., South Bethlehem, Pa.
F. R. Hutton, secretary American Society of Mechanical Engineers, New York, N. Y.
Coleman Sellers, Stevens Institute of Technology, Hoboken, N. J.
W. B. Coggswell, chief engineer Solvay Process Company, Syracuse, N. Y.
J. C. Kafer, Morgan Iron Works, New York, N. Y.
W. H Bailey, American Tube Works, New York, N. Y.
John E. Sweet, Straight Line Engine Company, Syracuse, N. Y.
Mansfield Merriman, professor Lehigh University, South Bethlehem, Pa.
Jos. L. Gobeille, pattern maker, Cleveland, Ohio.
Jas. C. Platt, consulting engineer, Waterford, N. Y.
Capt H. L. Jewett, Ordnance Department, U. S. N, South Bethlehem, Pa.
R. W. Hunt, president the Robert W. Hunt Co, Chicago, Ill.
Capt H. G. H. Tarr of Henry R. Worthington, New York, N. Y.
S. P. Wellman, president Wellman Iron & Steel Company, Thurlow, Pa.
F. W. Wood, president Maryland Steel Company, Sparrow's Point, Md.
R. W. Davenport, Bethlehem Iron Company, South Bethlehem, Pa.
Jas. C. Bayles, New York, N. Y.
Lieut. K. Niles, Ordnance Department, U. S. N., Washington, D. C.
Owen Leibert, Bethlehem Iron Company, South Bethlehem, Pa.
Powell Stackhouse, Cambria Iron Company, Johnstown, Pa.
R. E. Jennings, Spaulding, Jennings & Co., West Bergen Steel Works, Jersey City, N. J.
W. J. Taylor, general manager Taylor Iron & Steel Company, High Bridge, N. J.
Maunsel White, Bethlehem Iron Company, South Bethlehem, Pa.
G. W. McNulty, chief engineer Broadway Cable Company, New York, N. Y.
B. W. Grist, New York, N. Y.
Archibald Johnston, Bethlehem, Pa.
E. B. Ely, Coxe Bros. & Co., New York, N.Y.
Prof. J. E. Denton, Stevens Institute of Technology, Hoboken, N. J.
C. M. Wales, New York representative Cleveland City Forge & Iron Company, New York, N. Y.
Lieut F. R. Brainard, Ordnance Department, U. S. N, South Bethlehem, Pa.
A. L. Colby, Bethlehem Iron Company, South Bethlehem, Pa.
G. B. Linderman, South Bethlehem, Pa.
Clemens Jones, chemist Thomas Iron Company, Hokendauqua, Pa.
Harry Moore, James Moore & Son, Philadelphia, Pa
R. H. Sayre, Jr., Bethlehem Iron Company, South Bethlehem, Pa
Clark Fisher, Trenton Rail Joint Works, Trenton N. J.
E. M. McIlvain, Bethlehem Iron Company, South Bethlehem, Pa.
R. H. Wilbur, Philadelphia & Reading Railroad Company, Philadelphia, Pa.
Capt. Frank Hobbs, Watervliet Arsenal, West Troy, N. Y.
W. A. Wilbur, president E. P. Wilbur Trust Company, Bethlehem, Pa.
Richard Peters, Wellman Iron & Steel Company, Thurlow, Pa.
John Thomson, Thomson Hydraulic Company, New York, N. Y.
W. L. Estes, St. Luke's Hospital, South Bethlehem, Pa.
Col. H. G. Prout, editor *Railroad Gazette*, New York, N. Y.
G. E. Taintor of Taintor & Holt, Bankers, New York.
John Bogart, chief engineer Niagara Construction Company, New York, N. Y.
J. Davis Brodhead, E. P. Wilbur Trust Company, South Bethlehem, Pa.
Lieut. W. H. Jaques, Bethlehem Iron Company, South Bethlehem, Pa.
C. Kirchhoff, editor *The Iron Age*, New York, N. Y.
H. S. Drinker, Lehigh Valley Railroad Company, Philadelphia, Pa.
R. P. Linderman, president Bethlehem Iron Company, South Bethlehem, Pa.
David Thomas, furnace manager Thomas Iron Company, Hokendauqua, Pa.
E. O'C. Acker, Bethlehem Pa.
Wm. Kent, consulting engineer, New York, N. Y.
Samuel R Thomas, Hokendauqua, Pa.
R. M. Gummere, South Bethlehem, Pa.
F. S Gorham, New York representative Bethlehem Iron Company, New York, N. Y.
Lieut. Sidney E. Stuart, Ordnance Department U. S. N., South Bethlehem, Pa.
G. Aertsen, manager Latrobe Steel Works, Latrobe, Pa.
Percival Roberts, Jr., Pencoyd Iron Works, Pencoyd, Philadelphia, Pa.
C. Y. Wheeler, president Sterling Steel Company, Pittsburgh, Pa.
F. B. Miles, Bement, Miles & Co., Philadelphia, Pa.
W. E. C. Coxe of Reading, Pa.
Percival Roberts, Sr., A. & P. Roberts Company, Pencoyd, Philadelphia, Pa.
Chas. W. Mackey, vice-president Sterling Steel Company, New York, N. Y.
F. A. Pratt, president Pratt & Whitney Co., Hartford, Conn.
G. A. Crocker of Crocker Bros., New York.

J. F. Holloway, the chairman, opened the proceedings at the close of the dinner with a few remarks, and then read abstracts from some of the many letters and dispatches received from leading men in this country and abroad. Among them were communications from J. Kraft, chief engineer of the Cockerill Company, Seraing, Belgium; George N. Meyers of Bethlehem; W. B. Bement of Philadelphia; Senator Jos. R. Hawley, D. W. Flagler, Chief of Ordnance; Professor Hermann Wedding, Berlin; E. P. Martin, Dowlais; ex-secretary W. E Chandler; Henri Schneider, at the head of the great Creusot firm; Abram S. Hewitt of New York; Sir I. Lowthian Bell, Middlesborough; Sir James Kitson, Leeds; Professor Akerman of Sweden; Percy C. Gilchrist, and R. Gledhill of Sir Joseph Whitworth & Co., Manchester.

Mr. Holloway then announced a somewhat unusual departure from the orthodox course pursued by organizing a court, appointing R. A. Lamberton judge, and Chas. H. Loring, G. W. Melville, Charles Emery, Henry Morton, John M. Hartman, associate judges, making William F. Durfee sheriff and C. Kirchhoff clerk of the court. The latter read the indictment prepared by J. F. Holloway, thus opening the mock trial of John Fritz, which was the source of much merriment and brought out, too, earnest and deep-felt words of commendation and praise for the prisoner at the bar. Counsel for the defense were J. Davis Brodhead of Bethlehem, who opened with a brilliant motion to quash the indictment, Gen. W. Emil Doster and Dr. R. W. Raymond, who, in the course of his closing argument, read the following lines:

> Whom shall we choose the flag to hold
> In our vast conquest, yet untold,
> Which to the New World adds the Old?
> Donner und Blitz!
> John Fritz!

Leaders unseen are with us yet;
Nor they, nor we, the past forget.
The fate that took them early, yet,
Thank God, omits
John Fritz!

When doubters doubted whether we
Could beat our brethren over sea
In rolling mill machinery,
Who gave 'em fits?
John Fritz!

Who stands before us to combine
A level head, an upright spine,
With nowhere any crooked line?
Most clearly it's
John Fritz!

Whose heart is warmer than his blast?
Whose faith more steadfast to the last
Than any steel he ever cast?
That figure hits
John Fritz!

Whose fame commands our homage, such
As bears of envy not a touch,
Because we love the man so much?
Why, there he sits—
John Fritz!

The prosecution was conducted by John Birkinbine of Philadelphia and Oliver Williams of Catasauqua, who called and cross-examined the witnesses, among whom were John Thomas of Hokendauqua, Robert W. Hunt of Chicago, Charles Brodhead and E. D. Leavitt. Joseph D. Weeks of Pittsburgh made the closing address for the prosecution, terminating in a glowing eulogium. John Fritz, who had patiently endured the quizzing and the enthusiastic praise of his friends, responded, reading from a blue print. Dr. Lamberton then, in behalf of the participants, presented to Mr. Fritz a fine tubular chime hall clock. A fine illuminated address of congratulations from the Verein Deutscher Eisenhüttenleute was also presented. The proceedings closed with the singing of Auld Lang Syne.

To many of the participants who had known John Fritz as a friend and companion, without possessing a knowledge of his great creation—the plant of the Bethlehem Iron Company—the next day was to bring enlightenment. The quiet, genial companion and friend became the genius whose works proclaimed loudly what his modesty had so long hidden. Born on a farm with the slight chances for an education then and there available, John Fritz entered a machine shop early in life, although he still delights to talk of the days on the old farm. In the fifties he started to build what is now the Union Foundry at Catasauqua, but became interested later in the Bethlehem Iron Company, to the development and management of whose plant he devoted his life work. Some of the most important improvements in American rolling mill practice, notably the rolling mill table which bears his name, are his invention. It has been characteristic of all his work that it is built with a reserve of strength and power unusual with the majority of American designers.

Physically Mr. Fritz is a man wonderfully well preserved for his years, and considering the laborious life he has led. Our portrait is a reproduction of a recent photograph, but it utterly fails to catch the mischievous though kindly twinkle in his eye which accompanies the good stories he delights to tell.

On Thursday morning the party was conveyed by train to the proving grounds of the Bethlehem Iron Company, at Redington, where a shot was fired at a 13-inch nickel steel untreated plate with an 8-inch gun. The visitors were greatly interested in the behavior of both plate and projectile. The former showed that the shot had entered to a depth of about 9 inches, no traces of any cracks appearing, while the projectile which rebounded looked as though it were ready for the next round.

Again taking the train, the party returned to South Bethlehem and began the visit to the great plant, the first large body of engineers or manufacturers who have been admitted to it. The train ran slowly through the great machine shop, 1200 feet long, with the new addition recently under roof to house the machinery for finishing ordnance. The party slowly walked through this great shop, in which every tool was busy on ordnance, armor plate and merchant work. Parallel with it is the steel plant and forge. There are four large open-hearth furnaces, a Whitworth fluid compression press and two hydraulic forging presses, also from the Whitworth shops. Both of these tools were working when the party reached the plant. There was also cast from one of the open-hearth furnaces a very large ingot, which was subjected at once to fluid compression. The arrangements made for showing the plant and the operations were the subject of a good deal of enthusiastic comment on the part of men many of whom themselves are at the head of great concerns. It was truly said that it would require many days under ordinary circumstances to witness operations which the guests of the Bethlehem Iron Company saw in their short tour.

In the armor-plate finishing mill, which was next visited, work was progressing on a large number of plates for the "Massachusetts," "Maine," "Amphitrite" and other vessels. A matter of particular interest was the belt of armor for the bow of the "Massachusetts." In the tempering plant, a mandrel forged shaft was oil-tempered and an armor plate was subjected to the same operation. Some of the party were particularly interested in the action of the Leibert clutch. Then came the most interesting part of the plant to many visitors—the 12,000 ton press which Mr. Fritz is building, and the 125-ton hammer, which was pounding away on a plate ingot. Near it the plate-bending press was operating on a large armor plate.

We venture to say that none who had the privilege of visiting the works which John Fritz created in the brief space of five years finished the tour without a greater conception of the genius of the man who 50 years ago left a Pennsylvania farm a poor boy. No good American will fail to rejoice at the achievements of an engineer who ranks among the most eminent men of his country, which is only now beginning to acknowledge his worth.

OBITUARY.

THOMAS STRUTHERS.

Thomas Struthers of Warren, Pa., died on the 29th ult. at the age of 90. He was one of the iron and railroad pioneers in that section of the country, but began life in the wilds of Pennsylvania as a lawyer. He was a mover in the building of the Philadelphia & Erie Railroad, and next built the Oil Creek & Allegheny River road with but one partner, constructing 40 miles in 125 days. After building one of the street-car lines in Cincinnati he headed the improvement of the Des Moines River and sent steamers toward its source. He founded banks in Pennsylvania and iron works at Struthers, Ohio. He was a legislator in the fifties, and gave thousands toward the maintenance of the Union. His wealth, which reaches into the millions, all falls to a grandson.

JOHN BARLOW.

John Barlow, of the hardware firm of Stevenson & Barlow, Wappinger's Falls, N. Y., died September 29 of gastric trouble. Mr. Barlow was born in England in 1809, and came to this country in the spring of 1832, locating at what is now Lode, N. J. It was not until January 22, 1868, that Mr. Barlow entered the hardware business, forming a partnership with his son-in-law, George Stevenson. The store which they conducted was established by a Mr. Parker, whom they bought out. The business has since been carried on by them without interruption, a large trade having been built up. Mr. Barlow leaves a son, James K. Barlow, and a daughter, the wife of his partner.

THE WEEK.

A plan now on foot provides for an extension of the trolley system of car propulsion down Sixth avenue under the elevated structure to the South Ferry.

The assessor's valuation of the coal lands in Schuylkill County, Pa., has been increased from $32,000,000 to $75,000,000.

The Manufacturers' Club of Philadelphia has decided to organize a freight and information bureau, to include a representation from the Commercial Exchange, the Maritime Exchange, the Trades' League, the Board of Trade, the Bourse, the Grocers' and Importers' Exchange, the Produce Exchange, the Master Builders' Exchange, individuals, firms and corporations. The object is to protect the trade and commerce of the city against discriminating freight rates made in favor of other cities, and it is proposed to place at its head a first-class railroad expert, thoroughly familiar with the correct classification of freights and of the rates conceded to shippers in similar lines of business in other cities.

The first locomotive on the Jaffa Railway reached Jerusalem on August 21. The road will stop half a mile outside of the Jaffa Gate in consequence of the pressure for preserving the most important sacred associations. When the Jerusalem station was finally opened on September 26 the passengers were to travel to the city across the Valley of Hinnom, through the Jewish quarter, the most squalid part of the district.

The State authorities of New York, New Jersey, Pennsylvania and Illinois all manifest hostility toward the Reading combine.

The Western Tariff Association seems at last to have gone to pieces beyond recovery. The first blow was struck when the B. & Q. withdrew last summer. The so-called "gentlemen's agreement" was to cut down expenses, combine agencies and simplify the train service, but the obligations assumed do not seem to have been mutually beneficial or equally binding.

The Brooklyn Institute of Arts will erect a building to cost $200,000.

The works of the Singer Mfg. Company, at Elizabethport, N. J., suffered from fire last week to the extent of $300,000. The engine house and cabinet shop were both destroyed.

A fitting sequel to the Buffalo Switchmen's strike is the defeat of Frank Sweeney, who conducted that miserable failure, in the election of Grand Chief, at Dallas, Texas, 28th ult. John G. Wilson of La Crosse, Wis., is successor.

The statue of William Penn, which is to surmount the tower of the City Hall, Philadelphia, is 38 feet in hight. It was made in the bronze foundry of the Tacony Iron and Metal Company at Tacony.

The orange crop in Florida this year, maturing about January 1, will be nearly as large as the last and is expected to bring double the money.

Although the watch trust is supposed to be defunct, it appears that the organization has sufficient vitality to revoke the license of any jobber who undertakes to undersell the manufacturer. Three cor-

porations have adopted the license system and others are expected to do so.

Canada's foreign trade is increasing, the total exports for July and August having amounted to $25,900,000, as compared with $21,791,000 during the corresponding months in 1891. The increase in exports of goods, the produce of Canada, is phenomenal, being no less than $4,707,449 for the two months.

The United States consul at Hiogo, Japan, notices a decrease of $806,000 in the value of imports from the United States last year, owing to the diminished trade in kerosene. Imports of American raw cotton were larger.

To prevent a stampede of steamship lines to other ports the Mersey Dock Board propose to build a deep-water landing stage for the exclusive use of lines to New York.

Wheeling is about to build a new water works at an estimated cost of $230,000. The plant will be equipped with two Holly pumps of 7,500,000 gallons daily capacity each.

The Jersey City Board of Works has directed the Chief Engineer to prepare specifications for a new supply of pure and wholesome water for the city. The needs are peremptory.

Tampico, Mexico, will now take a place among the deep-water ports of the world. The harbor improvements have been completed, and the soundings measure 20 feet over the bar.

In Mexico there is a revival of the demand for agricultural machinery on the part of large farmers, and crop prospects give general encouragement. The importations of railway iron and steel continue much larger than in the same period last year.

All parts of the world, except islands in the Pacific, are in telegraphic connection, but it costs as much to communicate with the West Indies as with Asaab, in Africa. To Venezuela the cost is $3.64 per word.

Two American corn mills in Hamburg will be employed exclusively in grinding American maize, and a large demand is expected.

In England and France alike the effects of the American tariff are seen in the drying up of important industries.

Surveys for an iron wharf at Pago-Pago, in Samoa, have been completed for the United States Government. The British authorities deny that they desire to have a station at that point.

The wheat fleet loading at San Francisco numbers 51 vessels, of which only two are under the American flag.

Bermuda wants reciprocity with the United States.

The abandonment of Uganda by the British East Africa Trading Company is justified by the lack of any chance of profitable trading.

The rapidity with which the bicycle has come to the front is wonderful. The grand Columbus procession which is to take place in New York on the night of October 12 will be headed by 5000 wheelmen bearing lanterns.

Spain's vintage is good, but the olive crop is inferior, and the wheat crop is deficient in value $20,000,000.

Grape culture is extending rapidly in New York State, over 2000 acres of new vineyard having come into bearing last year. Within ten years the area of grape land in the Hudson River district has increased from 8000 to 13,000 acres, in the Lake Keuka district from 9000 to 15,000 acres, in the Canandaigua district from 2000 to 3200 acres, in the Ontario and Wayne district from 500 to 1500 acres, and in the Seneca district from 2500 to over 5000 acres. Altogether in the lake country there are 34,000 acres. In Ohio there are about 10,000 acres. This season the grape crop in the New York lake region is estimated at 55,000,000 pounds, which would make 5,500,000 10-pound baskets, or over 3000 carloads. In addition, the Hudson River district will send about 20,000,000 pounds of table grapes to market.

The Territory of New Mexico, as shown by the annual report of Governor L. Bradford Prince, is moderately increasing in population and assessed valuation. The latter is now $45,329,000, and the number of inhabitants in 1890 was 153,593. There are now open for settlement in the Santa Fé district 11,000,000 acres.

The chief clerk of the Immigration Bureau at this port was suspended from duty on the charge of furnishing cheap labor to manufacturers whose employees were on a strike.

The depression in the British shipbuilding industry reflects in a marked manner the depression in the general trade of the country. The year 1891 was one of great activity in the shipyards of the United Kingdom, the total new production having been 1,273,784 tons, against 1,271,110 tons in 1890, and 1,300,933 tons in 1889, and the amount under construction at the close of the year having been 793,913 tons, against 734,010 tons at the close of 1890. This continued large addition of new shipping in the face of a decreasing demand for it did not fail to attract at the time the attention of thoughtful observers and to lead them to predict just what has happened. At the annual meeting of the Associated British Chambers of Commerce, held a few days ago, its president declared that "shipbuilding was little more than a remembrance."

Shall the city's garbage be cremated, or dumped in the sea, is a question now under discussion. President Turnbull of the Barney Dumping Boat Company, who own 13 "self-dumpers," argues in favor of the dumping system, and when an experiment was made last week 4 miles off Manhattan Beach, the operation of unloading required exactly four minutes, and only about half a barrel of garbage remained on the surface. The other scows used were deck scows, and each was three hours and a half in unloading. President Turnbull says it cost $254,896 to cremate 819,654 loads of garbage, $169,668 to carry it out to sea and dump it from the deck scows, and $98,358 to carry it to sea and bury it with the self-dumpers.

The pneumatic tube service for mail transportation is about to be tested in Philadelphia for the approval of the Post Office department.

The Lima Car Works, at Columbus, Ohio, were almost totally destroyed by fire on the 28th ult., the loss being estimated at $100,000.

A big steel side wheeler has been contracted for at Hamilton, Ont., to be built in the works of the Bridge & Tool Company, to run between Toronto and Lewiston. She will cost $250,000. A New York firm will build the engines.

Chief Engineer Arthur of the Brotherhood of Locomotive Engineers, in a speech delivered at Altoona, Pa., the other day, claimed for the Brotherhood that it has given to the public the service of sober, industrious, reliable men; that it has educated railroad engineers to a higher standard of business excellence; that it has paid $3,000,000 to the widows and orphans of engineers and given $500,000 more among the needy; that it has reclaimed the fallen and reformed the drunkard, and that largely through its influence the tendency of things among engineers has been onward and upward.

Two plate girders made for the drawbridge of the Norfolk & Western Railroad over the Dismal Swamp Canal near Norfolk, Va., are each 120 feet long and 7 feet thick. They were shipped over the tracks of the Norfolk & Western for a distance of 250 miles without mishap, and to accomplish this delicate task four platform cars were required for each girder.

The last jacket has been placed on the great 13-inch gun being made at the Washington Navy Yard, and the rifle is now nearly completed. It will weigh 158,000 pounds and throw a shot wighing 1100 pounds that will penetrate 26⅝ inches of solid steel.

Trade Publications.

FRASER & CHALMERS of Chicago and London have favored us with copies of recently issued catalogues. One is on amalgamating machinery, and describes Jordan's patent amalgamator Cuts are given showing the amalgamator open for cleaning up and as closed and locked at work, together with a full description of the method of operating the machine. Another publication, entitled "American Enterprise in Mining Machinery," gives particulars of apparatus furnished by Fraser & Chalmers to miners of copper, silver, gold and diamonds in various parts of the world. A third pamphlet treats of chrome steel brand Adamantine stamp shoes and dies, cams, tappets and heads, roller shells and jaw plates, for which Fraser & Chalmers are exclusive sales agents. Full directions are given how to order parts of this material, illustrated by diagrams covering specific points which it is necessary for the manufacturers to know to fill orders intelligently.

PUMPS AND WELL MACHINERY of all kinds form the subject of a catalogue by the F. C. Austin Mfg. Company of Chicago.

CHARLES CHURCHILL & CO., Limited, of 21 Cross street, Finsbury, London, E. C., have published a large catalogue which they state "contains a far greater number of American machine tools than any other work ever published before in Great Britain." The catalogue describes machines built by some of the leading makers of this country. The above company claim "to have done more for the introduction of American machine tools in Great Britain than any other firm."

A RECENT CATALOGUE by the Sulzer-Vogt Machine Company of Louisville, Ky., gives, among others, the following reasons "why a hydraulic elevator is the best of all systems of elevators." The extreme simplicity, the smallest amount of machinery, absence of all entirely rotative parts, except the sheaves over which the ropes run, dispensing entirely with the use of steam at high pressure, used in complicated machinery working at high velocity and requiring nice adjustment and close attention of skilled engine drivers. The works of this company have been so enlarged recently that they can furnish hydraulic, steam or hand power passenger or freight elevators on short notice.

THE UNION ELECTRICAL WORKS, 206 South Canal street, Chicago, are successors to the Crowdus Chemical Electric Company of Memphis, Tenn. They have issued a catalogue describing their special manufactures, under the patents of Walter A. Crowdus, of primary batteries for constant current and constant potential service. The batteries furnished by this concern are intended to operate independent electric lighting systems, and also to furnish power for the operation of light machinery. Among the uses to which the battery is applied, which are illustrated in the catalogue, are fans, revolving tables for show windows, the operation of sewing machines, and similar purposes. The range of power is sufficiently great to drive light boats requiring 1 horse-power and under, and to pump water into supply tanks on railroad lines. It can be seen from this statement that there are a great variety of uses to which a motive power of this kind can be applied, and which will make such an outfit extremely desirable. Designs of electric lamps of very handsome pattern are shown in the catalogue.

The Iron Age

New York, Thursday, October 6, 1892.

DAVID WILLIAMS, - - - PUBLISHER AND PROPRIETOR.
CHAS. KIRCHHOFF, - - - EDITOR.
GEO. W. COPE, - - - ASSOCIATE EDITOR, CHICAGO.
RICHARD R. WILLIAMS, - - HARDWARE EDITOR.
JOHN S. KING, - - - - BUSINESS MANAGER.

A Prosperous Season.

The condition of the Western iron trade generally has completely changed within the past six weeks. It is exceptional to meet a manufacturer who is not fairly well satisfied with both the volume of business and his profits on current transactions. Business is now sufficiently heavy to absorb the capacity of active Western plants, and cost of production has at last been adjusted on a somewhat fair basis to those who have their money invested in manufacturing industries. Profits are small, as they must be with prices so low, but there was a time not long since when profits were about wiped out completely. For the time being, the decline in prices appears to have been checked, and there are now good indications of a reasonably firm basis of values for some time to come. Miners and shippers of ore and dealers in old material may not be pleased with prices on such a low plane, as they must be contented with smaller margins than they would like to see, but Western manufacturers are certainly in better shape as things now are than they would be with values soaring upward, unsettling all elements of cost.

The consumption of iron and steel promises to be large. The cost of finished material is on a plane that is very favorable to new enterprises, none of which will be checked by the mere question of the high price of iron and steel. It would be a blessing if prices could rise but a little higher than they now are. The halcyon period of the iron trade is not when a boom rages, even though a few great fortunes may be made by those who are so placed as to reap its full benefit, but rather during a comparatively placid time, when there is just enough business to keep everybody employed and products sell at reasonable prices. This is the condition of steady prosperity for which all prudent manufacturers are hoping. It would be a most excellent thing if mercurial America could settle down to it for more than a month or two at a time.

The recent arrest, upon the extraordinary charge of treason to the State of Pennsylvania, of the members of the famous Advisory Committee of the Homestead men promises to develop one of the most interesting phases in the long struggle between the Carnegie Steel Company and the Amalgamated Association. Whether the acts of the Advisory Committee will be determined to be treason by the judiciary, remains to be seen. The principal point is that no effort be spared to press to punishment those who have been guilty of lawlessness and violence. In all the recent great labor contests in this country there has been a hysterical cry that the law must be vindicated at any cost, after riots have taken place. Arrests are made, and a great show of authority ensues, but no one has ever heard of subsequent proceedings to punish the guilty. In fact, it is generally regarded as evidence of a spirit of un-American persecution to do so. When the employer has been successful in the contest, he is too busy in patching up the wounds of the fight. If he has been beaten he is not likely to prolong the irritation by following up riotous strikers.

Let it be once understood that, whatever may be the issue of a labor contest, those who are guilty of offenses against the law during its progress will be prosecuted, and be made to suffer; let it be understood that man or master may forgive and forget, but that the outraged community does not; let this be thoroughly understood by all, and there will be no such scenes as have been witnessed at Homestead.

Railroads Regulating the Iron Trade.

The appeals of Western pig iron manufacturers to railroad managers for freight rates that will enable them to meet outside competition have had an effect which was not anticipated. The furnacemen of a very wide section of country depend upon the Lake Superior region for their ores and upon the Connellsville coke district for their fuel. If they are located so that they have but a short haul on ore they have a long haul on coke, and *vice versa*. Ore and coke prices are well known to railroad managers, who also keep themselves posted upon improvements made in blast furnace practice and the average consumption of fuel and ore per ton of pig iron made. The mystery which once surrounded the pig iron business has disappeared, and to a great extent the cost of production is a mere matter of arithmetic. Occasional mishaps from unforeseen causes in operating furnaces do not affect the general result. Blast furnace managers, full of woe at the persistent low sales by competitors, and who apply for relief to the freight agents of railroad corporations, asking for lower rates on ore or coke, as the case may be, are met by the chilly statement that the situation is perfectly understood. They are told that in the adjustment of rates on raw material care has been taken to equalize all such costs to the blast furnaces, low fuel freights carrying high ore freights and low ore freights carrying high fuel freights, so that furnace costs, with equally well equipped and well managed plants, have no excuse in the district referred to for varying even 25 cents per ton. Freight rates on the pig iron itself are then so adjusted that every locality is protected against every other locality making the same class of iron. The railroad companies have thus defined the boundaries within which a furnace company shall legitimately transact business. It is a very enterprising concern indeed which can overleap such barriers and conduct a profitable trade outside of the limits laid down in this way.

The outcome of this regulation of the trade by wholly external influences remains to be seen. Furnacemen whose plants are in a locality in which the consumption of pig iron is heavy are fortunate, but those who are obliged to seek outside markets for a surplus production are badly handicapped. Relief is to be sought in one direction only, and that is in the investment of more capital in the erection of some kind of a finishing plant in which the pig iron made can be turned into a product not so susceptible of close regulation by railroad managers. The remedy is a costly one, but it will have to be tested by iron manufacturers who do not propose to be crowded out of business.

Business Expectations.

To guard against the two extremes, buoyant speculation and undue depression, is eminently desirable in judging of current events. Through these subtle influences, intangible and indefinable in themselves, valuations are constantly affected. Yet there is a continual drift of sentiment in one direction or the other. In the present relation of parties with reference to public affairs individuals unconsciously become classified either as pessimists or optimists, some foreseeing evil in a certain contingency, while others on the opposite side are equally sanguine. Thus between the two a kind of mercantile strabismus or obliquity of mental vision becomes prevalent, so that events, whether contemporaneous or prospective, are contemplated through a distorted medium with effects damaging to the general welfare. The drift referred to may be wholly independent of data upon which alone any intelligent opinion could possibly be formed. But it is more natural where pecuniary interests are at stake to entertain views that are pleasing, at the same time becoming oblivious to those that are unwelcome.

Now, in regard to a proper estimate of the business future, reasoning synthetically, what do we discover in present conditions and prospects, contemplated in their most obvious bearings? We may summarize thus in anticipating the answer: Consider first the value of our agricultural products that are now, or soon will be, in merchantable shape and the probability of finding for them a remunerative market. Closely following and dependent on the foregoing is the direction and volume of our gold shipments in settling the balance of trade. Finally, what will be the outcome of the currency question?

Just now some of these points excite special concern. For instance, our foreign commerce of late is less satisfactory than before for a considerable period, on account of the check on exports and the

disproportionate volume of imports, the result being for August last, for the whole country, an adverse balance of nearly $5,000,000, which is a change of nearly $12,000,000 compared with last year, when the exports for the corresponding month exceeded the imports nearly $7,000,000. Throwing out the specie for both years, and looking to merchandise alone, there is a relative change for the single month of over $19,000,000. Considered in connection with changing conditions of the currency the suggestion conveyed is of a cautionary nature. Another point coming prominently into notice at this season of the year, but of which nothing very definite can yet be predicted, is the outcome of the ripening corn crop, now almost assured. Remarkably favorable weather encourages a belief in the best results, and corn is more important every year, with the increasing foreign demand for this valuable cereal. According to the last agricultural bulletin the crop will hardly reach 1,700,000,000 bushels, while experts do not place it below 1,600,000,000, and some go as high as 1,800,000,000 bushels, against 2,060,000,000 bushels in 1891. Western farmers speak of the replanted corn on the lowlands flooded in the spring as having rapidly matured under the hot weather in September.

The only drawback now is the low range of prices both for corn and wheat, the latter selling at about 79 cents last month, as compared with nearly $1.06 per bushel a year before. They are about the lowest on record. The very large quantity of wheat in sight, the exceeding tameness of speculation, the heavy stocks held in the leading European markets, with the consequent light export demand, readily explain the situation. The chance of good prices in the European market is somewhat problematical, it being known that while in England the yield of marketable wheat will be smaller than before for eight years, the harvest in most Continental countries is superior to that of 1891, the principal exceptions being Hungary, Italy, Spain and Portugal. A leading English authority expresses satisfaction that Europe's deficiencies may in part be made good by the supplies of maize from the enormous acreage in the United States, and there can be no reasonable doubt that after the efforts made during the last year to make known in foreign countries the valuable qualities of maize—and especially desirable when mingled with rye—the demand will be large. Respecting the new cotton crop, it is premature to attempt a prediction beyond the fact that the yield is only moderate and prices are on the lowest basis known. Neither breadstuffs nor cotton, therefore, promise large valuations in the exports of coming months.

Now, in regard to gold movements, there is no assurance that European banks may not succeed in attracting still further amounts, offering a premium of some kind if other devices fail. It is also to be considered that Austro-Hungary stands ready at the opportune moment to complete her scheme for reforming her currency on an exclusively gold basis. A Vienna letter says that "as soon as Austro-Hungary begins again to export merchandise the gold import will assume greater importance." The situation in India is also precarious.

It remains to be said, despite some indications to the contrary, that taking all in all there is reason for unbounded confidence in the continued prosperity of the country. Enormous new resources are seen close at hand in the maturing crops; the mercantile classes are everywhere on a solid basis; credit is not overstrained. On the contrary, no less than $200,000,000 of securities have been absorbed, according to an intelligent Wall street estimate, since London began the surrender of these investments, and still money East and West was rarely more abundant. Besides, if prices are low there is no pressing necessity to sell.

The Homestead Advisory Committee and the Supreme Court.

The beginning of the fourth month of the strike at the Homestead Steel Works of the Carnegie Steel Company, Limited, was marked by an event which has probably caused more consternation in the ranks of the strikers than any move made by the firm since the commencement of the Homestead troubles. This last move on the part of the firm was the issuing of warrants against every member of the famous Advisory Committee, charging them with treason against the State of Pennsylvania. The information was made by H. Beltzhoover, county detective, who went before Chief Justice Paxson of the Supreme Court of Pennsylvania and made the informations. Warrants were at once issued and placed in the hands of the sheriff of Allegheny County for execution, and already seven of the accused have been arrested. The information contained in the warrants reads as follows :

Commowealth of Pennsylvania, County of Allegheny.

Before me, the subscriber, Edward H. Paxson, Chief Justice of the Supreme Court of Pennsylvania and ex-officio Justice of the Court of Oyer and Terminer, of Allegheny County, and a Justice of the Peace in and for the county of Allegheny, in the State of Pennsylvania, personally came Harry Beltzhoover, county detective, who upon oath administered according to law, deposeth and says that heretofore, to-wit, on or about the first day of July, A.D. 1892, the defendants above named, being inhabitants of and residents within the Commonwealth of Pennsylvania and under protection of the laws of the Commonwealth of Pennsylvania and owing allegiance and fidelity to the said Commonwealth of Pennsylvania, not weighing the duty of their said allegiance, but wickedly devising and intending the peace and tranquillity of the said Commonwealth to disturb and stir, move and excite insurrection, rebellion and war against the said Commonwealth of Pennsylvania, did at the borough of Homestead, and in the township of Mifflin, both within the county of Allegheny and State of Pennsylvania, and elsewhere within the State of Pennsylvania and beyond the borders of said State, unlawfully, falsely, maliciously and traitorously compass, imagine and intend to raise and levy war, insurrection and rebellion against the Commonwealth of Pennsylvania; and in order to fulfill and bring into effect the said compassings, imaginations and intentions of them the said defendants afterwards, to-wit, on the 1st day of July, A.D. 1892, and at divers other times at the borough of Homestead and in the township of Mifflin, with a great multitude of persons, numbering hundreds, armed and arrayed in a warlike manner, that is to say, with guns, revolvers, cannons, swords, knives, clubs and other warlike weapons as well offensive as defensive, being then and there unlawfully, maliciously and traitorously assembled and gathered together, did falsely and traitorously join and assemble themselves together against the Commonwealth of Pennsylvania, and then and there with force and arms did falsely and traitorously and in a hostile and warlike manner, array and dispose themselves against the said Commonwealth of Pennsylvania and did ordain, prepare and levy war against the said Commonwealth of Pennsylvania to the end, that its Constitution, laws and authority were defied, resisted and averted by the said defendants and their armed allies, contrary to the duty of allegiance and fidelity of the said defendants.

All of which this deponent states upon information received and believed by him, and he therefore prays that a warrant may issue, and the aforesaid defendants may be arrested and held to answer this charge of treason against the Commonwealth of Pennsylvania.

The law under which this proceeding is brought is the Crimes act of 1860, and it is stated that since that period there have been a number of prosecutions under the same act. The first section of it reads as follows:

If any person, owing allegience to the Commonwealth of Pennsylvania, shall levy war against the same, or shall adhere to the enemies thereof, giving them aid and comfort within the State or elsewhere, and shall be thereof convicted, on confession in open court or on the testimony of two witnesses to the same overt act of the treason whereof he shall stand indicted, such person shall on conviction be adjudged guilty of treason against the Commonwealth of Pennsylvania, and be sentenced to pay a fine not exceeding $2000 and undergo an imprisonment by separate and solitary confinement at labor not exceeding 12 years.

The act further provides than any person having knowledge of such treason and concealing it shall be imprisoned not exceeding six years, and fined not exceeding $1000. As stated above, this last move on the part of the Carnegie Steel Company, Limited, has been a very serious blow to the members of the Advisory Committee, and already the cry of persecution has been raised, which has been the case with every move made by the firm within the last three months. After the warrants were issued for the arrest of the members of the Advisory Committee, it was decided to fix bail in each case in the amount of $10,000. Already two of the men arrested have furnished bail in this amount. The fixing of bail in such a large sum was quite a disappointment to the men, as they expected the amount would be much smaller. It is extremely doubtful whether many of the men will be able to secure bail in this amount, as many of them are already out on bail on other charges, and to furnish additional security will be almost impossible. Additional arrests of the Advisory Committee members will doubtless be made during the present week. A number of the men have adopted the tactics of remaining under cover until arrangements have been made with their friends for furnishing bail. In this connection it may be noted that Hugh Ross, who for a long time took a prominent part in the movements of the strikers at Homestead, and also in the proceedings of the Advisory Board, has disappeared, and his whereabouts is at present unknown. He was under charge of murder, conspiracy and aggravated riot, and was under bail in the sum of $13,000. This, of course, will be forfeited in case he does not appear for trial when his case is called.

The meeting of the American Institute of Mining Engineers, which is to be held in the Schuylkill Valley, Pa., with headquarters at the Nevershink Mountain House, Reading, promises to be unusually attractive, and it will undoubtedly be well attended. After business sessions Tuesday evening, October 11, and the morning following, the visiting members and their ladies will be entertained by inspections of industries at Reading, Birdsboro and Pottstown; by a concert, a hop and

luncheons at Reading and Pottstown. Other sessions Thursday afternoon and evening will be followed by an extended excursion to the anthracite coal fields and a complimentary dinner on Friday, October 14. Among the points to be visited are the basic steel plant and the remodeled Warwick Furnace at Pottstown, the Pennsylvania Diamond Drill Works and the Brown segmental gun in process of construction at Birdsboro; the Carpenter Steel Works, Reading Hardware Works and Cofrode & Saylor's Rolling Mill at Reading; the Scraper line at Shenandoah and the famous Maple Hill Colliery. Among the topics for discussion are hot-blast stoves, the manufacture of projectiles, the basic Bessemer steel process and colliery explosions.

Washington News.

(From Our Regular Correspondent.)

WASHINGTON, D. C., October 3, 1892.

The two additional ships authorized by Congress and now fairly under way to the extent of inviting proposals for their construction will even go beyond the highest achievements in naval design yet reached by our naval experts. To say this means that they will be the finest vessels of war of their type afloat.

The Government has now nearing completion a number of very superior vessels, but it is proposed to make the new ones rival these. With the progress accomplished by our navy within the past ten years, it would be impossible to foresee what will be the advance in the next decade. It is quite certain from what has been accomplished thus far that it will be far beyond anything accomplished by any of the European nations.

The two new ships were figured at $7,000,000, or about $4,000,000 for the battleship and about $3,000,000 for the armored cruiser. The latter will be of the type of the "New York," only larger, with some improvements in details of hull and machinery. These figures will not include the armament, which Commodore Folger proposes shall be of the highest type of the class of ordnance for heavy and secondary batteries extant.

The new cruiser is described officially as 400 feet long, 64 feet beam, 23 feet draft, 16,000 horse-power and 20 knots' speed. Her coal-carrying capacity will be 1700 tons, affording an estimated steaming capacity of 19,000 miles, at an average of 10 knots an hour. This is 2000 miles more steaming endurance than the "New York."

The armament of this cruiser will consist of eight 8-inch B. L. R., and 12 5-inch B. L. rapid-fire rifles, with an auxiliary battery of Gatlings, 6-pounders and torpedo tubes.

The battleship will be 360 feet long, 45 feet beam, 24 feet draft, 11,000 horse power, 16½ knots' speed, and will carry four 12-inch and six 4-inch B. L. R., 20 six-pounders, and five 1-pound guns.

Although these vessels were authorized and will be contracted for, the money for their construction will be appropriated by the December session of Congress. It will then remain to be seen whether the liberal policy of the past shall be continued, as all the vessels authorized will have been contracted for when the new cruiser and battleship shall have been awarded. It is not probable, however, that there will be an entire cessation. The approaching national election had something to do with the receding of the Senate from the niggardly policy in public expenditures of a certain clique in the House. It would be a waste of time to try to enlighten such a benighted and parsimonious set of backwoods politicians, but for the benefit of intelligent American sentiment the picture might be drawn of the sorry spectacle the great republic of the West would display at the Columbian review next April in New York harbor if their ideas had dominated. When the Republican Congress authorized the four pioneer ships, and a Democratic administration, under such an intelligent Naval Secretary as Whitney, and a Republican Congress and administration, began the work of rebuilding the American navy, they inaugurated a work of which every American citizen, except possibly Holman *et al.*, will be proud when the great war craft of the Republic mingle with the best types of foreign vessels in the grand bay of the metropolis six brief months hence.

The success of this display is assured, as all the great naval powers and some of the smaller of the globe have signified their purpose to be represented.

The Navy Department are now engaged in preparing the details of the programme from the rendezvous of the vessels and preliminary courtesies in Hampton Roads, their magnificent sail thence as a fleet to the harbor of New York and the naval commemorative ceremonies which will there take place. This will be an object lesson in naval power and influence which every American citizen will remember. There will be no ships of their type which will excel those of the United States.

The affair will be the finest and most extensive international display of fleets which has ever been witnessed.

Launching the "Alabama."

Followed by the cheers of 3000 people, the booming of guns and the tooting and screeching of steam whistles, the new steamer "Alabama," the largest of the Baltimore Steam Packet Company's fleet, glided off the ways at the Maryland Steel Company's marine yard at Sparrow's Point at 2.30, on Saturday. It was a successful launch, and was of more than ordinary interest from the fact that the "Alabama" is the largest steel steamer ever built by the Maryland Steel Company. Several steamships and one good-sized steamboat have been turned out by this new department of Maryland's greatest industry, but the "Alabama" is thus far the best production in marine architecture.

The launch was witnessed by more well-known people than ever before attended a similar affair in Maryland waters. A special train of parlor cars on the Baltimore & Ohio road brought more than 100 people from New York, and a number from Philadelphia. Work has just begun on a large steamer for the Merchants & Miners' Transportation Line. The "Alabama" represents the highest type of river boat construction in the hull, machinery and joiner work. Her load displacement is 2200 tons, and she will have a cargo capacity of 750 tons. The dimensions are: Length over all, 305 feet; length between perpendiculars, 290 feet; breadth molded at deck, 43 feet; breadth over guards, 55 feet; depth molded in center, 18 feet. The hull is built throughout of steel. The keel is of the center through-plate construction. The bottom plating varies from 24 pounds to the square foot to 22½ pounds. The motive power will consist of a triple-expansion engine having four cylinders, two of them being low pressure. The boat will cost about $250,000.

The first of the giant ferries for service across Lake Michigan was launched by the Craig Shipbuilding Company on the 28th ult. She was christened the "Ann Arbor No. 1." Cars will be run on the railroad tracks, which extend the entire length of the steamer, and carried without break of bulk between Pewaukee and Frankfort. The boat cost $250,000.

MANUFACTURING.

Iron and Steel.

The Wood system of casting steel from the ladle into molds on cars, first introduced at the new plant of the Maryland Steel Company, then adopted by Edgar Thomson, is now to be put in also at the Chicago rail mill.

The Salem (Va.) Furnace recently shipped 1000 tons of iron to Northern markets and state that they have enough orders on hand to clear their yard. It is thought that the furnace will have to shut down soon for repairs.

The American Steel Wheel Company of Boston, who are putting up a Bessemer steel plant at Garwood, N. J., about 13 miles from New York, have determined to operate the plant by the Ridgway steam-hydraulic system instead of the usual hydraulic, thereby doing away with pumps and accumulator and the heavy pipes, valves, &c. The cranes used in this plant will have power slewing and racking motions as well as lifting, and all will be operated by the steam hydraulic system. The steam pressure carried will be only 100 pounds. While the Ridgway system has been adopted by many open-hearth plants, this is the first Bessemer plant to use it exclusively to the neglect of the hydraulic entirely. Craig, Ridgway & Son have the order for the complete equipment, and it is expected the plant will be in operation by December 1.

W. W. Kurtz & Son, Valley Iron Works, Coatesville, Pa., are contemplating increasing the capacity of their rolling mills by a rearrangement of the present plant and insertion of additional heating furnaces.

It is stated that there is a movement on foot to erect a steel plant at Bessemer, Ala. This is a separate scheme from the proposed plant of the Tennessee Coal, Iron and Railway Company, and will be commenced right away, regardless of the Ensley plant and the proposed branch at Bessemer. There is also talk of turning the old rolling-mill plant of the Elyton Land Company into a cotton-tie factory.

In the case of the Chattanooga, Tenn., National Bank against the Fort Payne Rolling Mill Company, Fort Payne, Ala., in the United States Court at Birmingham, Ala., Judge Bruce has issued an order that Receiver Charles Turner sell the rolling mill at auction, after four weeks' notice, for a price not less than $40,000, $3000 to be paid in cash. This is done to satisfy the debt held by the bank of $8000, and other indebtedness.

Last week the rolling stock, material, &c., of the United States Rolling Stock Company, at Anniston, Ala., were sold at receiver's auction, and were bid in by George W. Ristine, the general manager of the New United States Car Company. The new company have also leased the numerous plants of the old company, and formal transfer of the entire property has been made. The works were shut down about two years ago, throwing 1000 men out of employment. It is thought that the rolling-mill department, at Anniston, will start up at once, and that the works at Decatur will resume at an early day.

It is stated that the Southern Iron Company, with headquarters at Nashville, Tenn., will erect two new furnaces on their property in Hickman County.

The 18-inch train of the Albany Iron Works, at Troy, N. Y., which had been idle for several weeks, is in operation again.

The report that the No. 2 furnace of the Roane Iron Company, Rockwood, Tenn., had closed down is incorrect, but it is stated that furnace No. 1 will be abandoned, and that No. 2 will be relined and a new 100-ton furnace built.

It is stated that the proposed sale of the iron and steel furnaces at Middlesborough, Ky., is off and that the company will be reorganized. The plants of the Watts Steel and Iron Company and the South Boston Iron Works are nearing completion.

Arrangements have been concluded by which the Akron Steam Forge Company of Akron, Ohio, will be removed to Muncie, Ind. The plant will be located on grounds belonging to the Muncie Land Company, otherwise known as the Conger syndicate. The Akron Steam Forge Company have for some time past been considering the advisability of enlarging their plant, and it is with this object in view that the movement has been decided upon. Work on the erection of the new plant at Muncie will be commenced at once, and it is expected to be ready for operations not later than January 1. The product will consist of car axles, I-beams and heavy steel forgings.

Last week Hannah Furnace of the Mahoning Valley Iron Company at Youngstown, Ohio, which has been undergoing repairs for some time, was again put in operation. During the shut-down the furnace was relined and other-

wise repaired, and it starts on the present blast with good prospects of a long and successful run.

The plate mills and nail factory of the Junction Iron Company, at Mingo Junction, Ohio, which have been idle since August 23 last, owing to inability to adjust wages, are again in operation. The scale of wages governing the plate mill was adjusted week before last, and that department was put in operation on Monday, September 26. The scale of wages governing the nail factory was adjusted on Tuesday, September 27, and this department was put in operation on Monday, the 3d inst.

As already announced, the Board of Directors of the Brown-Bonnell Iron Company at a recent meeting decided to make some extensive additions to the plant of this concern. This will include the erection of two new iron buildings, each 220 feet long and 60 feet wide, connected by a building 50 x 60 feet. In these buildings a new bar mill and a new 10-inch mill will be erected. They will be of the combined form, and will be erected under the plans of John I. Williams. These buildings will contain four heating furnaces with boilers, two vertical engines for driving rolls and two engines for driving shears. Each mill will occupy a separate building, and the engines will be placed in the connecting building. This firm have decided to dismantle their single puddling furnaces and replace them with double ones. In No. 1 mill all the single puddling furnaces have been torn out, and double ones erected in their place In addition to the above improvements, Phœnix furnace of the Brown-Bonnell Iron Company will be thoroughly overhauled and relined.

The Continental Tube Works plant, at Pittsburgh, owned by the Oil Well Supply Company of that city, which has been idle for some time, was put in partial operation last week. It is probable that the plant will be running to its full capacity in a short time.

Last week a serious explosion occurred at Furnace H of the Carnegie Steel Company, Limited, at Bessemer, Pa. The explosion was caused by chilled metal hanging to the sides of the furnace and then dropping into the molten metal at the bottom. Two men were very severely injured. As a consequence of the accident, the furnace will be idle for some time to come.

As showing that the tonnage at the Upper Union Mills of the Carnegie Steel Company, Limited, is now as large as before the strike, it can be noted that on Thursday, the 29th ult., the tonnage in 12 hours was larger than in any similar period in the history of the plant. P. R. Dillon, superintendent of the Upper and Lower Union mills, is highly gratified at the successful showing made by the new workmen introduced into the plant during the past two or three months.

The Wells Rustless Iron Company of Little Ferry, N. J., inform us that their trade during the summer has been better than expected, and that the fall business has started in very handsomely. They are receiving large orders for their rustless and oxide steel water-pipe, and are oxidizing a large amount of work for nearby manufacturers, among whom may be mentioned the DuBois Mfg. Company, the J. B. & J. M. Cornell Iron Works, the Archer & Pancoast Mfg. Company and E. A. Jackson & Bro.

The Warwick Furnace at Pottstown, Pa., was blown in October 1, after extensive alterations and repairs, including new lining of the furnace stack, a full equipment of bosh cooling plates, a plant of three 60 x 20 Hugh Kennedy hot-blast stoves, and a general overhauling under the personal direction of Edgar S. Cook, president of the company, the plans being furnished by John Birkinbine of Philadelphia, as the consulting engineer of the Warwick Iron Company. Warwick Furnace has, under Mr. Cook's management, achieved an enviable reputation for the quantity of pig iron produced and for economical results obtained, and we may expect to hear of even better work with the new equipment.

Furnace A of the New Jersey Zinc and Iron Company, Newark, N. J., went into blast September 19.

The furnace of the Passaic Zinc Company, in Hudson County, N. J., will be blown in on October 10.

One of the furnaces of the Poughkeepsie Iron Company, at Poughkeepsie, N. Y., has resumed operations.

Ground has been broken at Superior, Wis., for the York Furnace, which will be removed to that place.

The Penn Steel Casting Company, Chester, Pa., have made their first heat from their new open-hearth furnace. Everything about the plant worked to the entire satisfaction of the company.

In the new mill of the Lukens Iron and Steel Works, at Coatesville, Pa., there was recently rolled a steel plate of unusual size, the ingot from which it was rolled weighing 10,000 pounds.

Work on the new iron building which the Premier Steel Works Company are erecting at Indianapolis, Ind., is progressing rapidly. The building is 200 x 60 feet, and will contain the new blooming mill and 12 boilers of 100 horse-power each. The company now employ 420 men, but expect to employ over 600 before the year closes.

The Bolton Iron and Steel Company of Canton, Ohio, have asked the city to donate them land necessary for an extension of their works.

A company has been organized at Beaver Dam, Wis., with a capital of $6000, for the manufacture of malleable iron.

The new sheet mill which Lalance & Grosjean of New York are erecting near Harrisburg, Pa., is fast approaching completion.

The plans for the new shops of the Fulton Iron Works at Oakland, Cal., have been completed, and operations are now under way for their erection.

Machinery.

Morse, Williams & Co. of the Morse Elevator Works, 1105 Frankford avenue, Philadelphia, have built an addition to the hydraulic department of their factory, which will increase their facilities in that line. We learn that business with them is exceedingly brisk, an exceptionally large volume of orders for elevators being on their books this season.

John Brennan & Co. of Detroit have been for some time so pushed with work that they have been obliged to adopt the most modern devices for facilitating their business, and among the rest they have ordered the Ridgway steam-hydraulic crane for the rapid handling of materials in their yard. Craig Ridgway & Son are now building them one of their cranes of long radius, and they expect to have it in operation next month.

The plant of George V. Cresson, of Philadelphia, the well-known maker of pulleys, shafting, &c., is considered one of the most complete in the country. The foundry is provided with traveling cranes, and while they are excellent, it has been found that if time is not to be lost by the molders waiting on the crane, which may be at the other end of the shop when it is wanted, swing cranes must be used also. Mr. Cresson is consequently putting in swing cranes, and has adopted the Ridgway steam-hydraulic as the best type, and Craig Ridgway & Son are now building them for him.

The Pennsylvania Diamond Drill and Manufacturing Company of Birdsboro, Pa., have received an order for one of their vertical engines to be shipped to Mexico, also for a number of rock-crushers and granulators. Among other contracts recently received by them is one for making the projectiles for the Brown sectional wire wound gun, and for one of the No. 7 Diamond Core Prospecting Drills. The company's 22-foot boring mill is still busy turning up turret tracks for the new gunboats, and we learn that their well-appointed machine shop is more pressed with work than has been the case for many months, while the foundry is now crowded with orders for boiler fronts, architectural iron and machinery castings.

Christiana Machine Company of Christiana, Pa., are reported to have had a very large share of business all the summer and orders booked which will keep their factory busy for some time to come. The company manufacture a special line of power-transmitting machinery, including pulleys, shafting, gearing, hangers and turbine water wheels, particularly the Balanced Gate wheel, for which they hold the patent.

The Coatesville Boiler Works, Coatesville, Pa., report a very satisfactory condition of business, which has been growing steadily with them since the removal of their establishment to the present quarters two years ago. Some new machines have recently been placed in the company's shops, including a large 18-foot plate planer, and others are shortly to be added, as they are called for by the exigencies of increasing business. The main erecting shop is a fine building, 150 x 60 feet, fitted with an overhead track and all the latest improvements.

Frank L. Dunlevy & Co., 833 Arch street, Philadelphia, have been appointed sole agents in Eastern Pennsylvania, Delaware and part of New Jersey for Kerr's improved metallic lacing for belts. They report an increasing demand for this material, which is being introduced into many of the largest establishments in and around Philadelphia with great success. Among other concerns using the Kerr system of lacing are Hoopes & Townsend, Baldwin Locomotive Works, Pennsylvania Railroad Company, &c.

On Tuesday, September 27, the car shops of the Lima Locomotive and Machine Company, at Lima, Ohio, were destroyed by fire. The destroyed buildings will be replaced by the erection of three large brick structures, work on which will be commenced just as soon as the insurance has been adjusted. The locomotive and machine departments of this plant are not affected by the fire, these shops being in a different portion of the city.

The new foundry at the Schenectady Locomotive Works, Schenectady, N. Y., is now in operation. It is 387 feet long by 100 feet wide and two stories in hight.

Shea & Strahle's Boiler Works, at Chattanooga, Tenn., have been burned. The firm will rebuild at once on a larger scale.

Wallace, Banfield & Co. of Steubenville, Ohio, will erect an iron structure to take the place of their works which recently burned.

The Lima Car Works, at Lima, Ohio, have been damaged by fire, and the machine shop, blacksmith shop and erecting department entirely destroyed. The loss is estimated at $50,000. The burned buildings will be replaced by brick structures.

The Kepp Gear Wheel and Foundry Company of Allegheny, Pa., have been granted a charter with a capital stock of $50,000. This new concern will engage in the manufacture of general machine castings, pinions, spur wheels, mortise wheels and hunting tooth gearing. The firm will use the Kepp gear molding machine in the manufacture of gearing.

The Underground Cable Company of Pittsburgh have declared the usual quarterly dividend of 1¼ per cent., payable on and after October 15.

The Westinghouse Electric & Mfg. Company of Pittsburgh have been awarded a large contract by the Chicago Railway Company of Chicago. The company recently decided to adopt electricity for motive power, and the contract for the equipping of the line with electric motors has been given to the Westinghouse Electric & Mfg. Company.

The Berlin Iron Bridge Company of East Berlin, Conn., are building a new machine shop for the Mather Electric Company of South Manchester, Conn. The building will be 52 feet wide by 150 feet long, the central portion being 35 feet in width and controlled by a 15-ton traveling crane. The design is a combination of iron and wood—all the heavier parts of the building being of iron.

Messrs. Otis Bros. & Co., the elevator builders, of New York, whose works are at Yonkers, are making considerable improvements in their foundry and have decided to use the Ridgway balanced cranes, the order for which has been placed with Messrs. Ridgway. This careful concern, before deciding on a crane, spent some time in investigating cranes. They went to the works of the Benjamin Atha & Illingworth Company at Newark, N. J., where the Ridgway crane is used, and witnessed its performance in the foundry there.

F. S. Farren & Co. of Baltimore, Md., have decided to adopt the Ridgway steam-hydraulic cranes for handling their goods. The cranes are made especially quick in their action and are of a special design. The Gibbs Mfg. Company of the same city are getting the cranes, and several other establishments there who are desirous of handling materials rapidly are considering the advisability of putting in the Ridgway rapid cranes.

The certificate of incorporation of the Ranton Boiler Company has been recorded in the County Clerk's office at Syracuse, N. Y. The incorporators are: William J. Ranton, Charles T. Brockway, E. W. Parmilee, George West and Samuel S. Ranton. The object of the company is the manufacture and sale of steam boilers. The capital stock is placed at $25,000 and is divided into 250 shares. The principal business office will be in Syracuse.

A corporation to be known as the F. R. Patch Mfg. Company has been organized at Rutland, Vt., to carry on a foundry and machine shop. The company has purchased the foundry, machine shop, machinery and real estate used by the Harris Mfg. Company up to the time of the recent fire. The foundry and machine shop business of R. R. Patch & Co. has also been sold to the new concern. As soon as alterations are made and new buildings erected the main portion of the business now carried on at the old Mansfield and Stimson plant will be moved to the new quarters. The incorporators of the new company are F. R. Patch, C. P. Harris, G. T. Chaffee, W. A. Harris and N. K. Chaffee.

Two large valves, weighing 11 tons each, have been shipped from the Kennedy Valve Works, Coxsackie, N. Y., for the Croton aqueduct, New York City. They were the 48-inch size. This makes four shipped by the works within a month. The Kennedy Valve Company have a large contract with New York City to supply hydrants, sewer traps

and valves. It took from eight to ten horses to draw each valve to the depot, and they are said to be the largest valves made in the country.

The Schenectady, N. Y., Locomotive Works are turning out about 30 locomotives a month, and the plant now employs 1875 men, mostly skilled workmen.

The shops of the Pensacola & Perdido Railway Company, at Pensacola, Fla., were destroyed by fire last week Loss $20,000; insurance, $5300.

The Ketcham Iron Company, Fort Smith, Ark., will increase their capacity by the addition of new machinery.

The J. Matthews Boiler Works were conducting a successful business at South Bend, Ind., up to March 11 of the present year. At that time their shops were destroyed by fire, involving a loss of $15,000. An inviting offer was made them by the Harvey Land Association of Harvey, Ill., to locate there, the amount of land being 2½ acres, with fine, extensive shop and foundry. This they accepted, and are now established. About the second week in August they started up their machinery in the new shops and are just beginning to get into good shape to operate. They manufacture all kinds of boilers, stacks, sheet-iron work of every description, heaters, stand pipes and water-works towers In conjunction with these lines they do general repairing. At present, in addition to other orders in hand in process of execution, they are doing considerable work at the World's Fair grounds, erecting smoke stacks for a number of boiler exhibits.

Miscellaneous.

W. E. Bradley & Co. will engage in the manufacture of fire escapes, force pumps, &c., at Middletown, N. Y.

The Dallas Stamping Company have been incorporated at Dallas, Texas, for the manufacture of stamped tin and sheet-metal ware. The capital stock is $50,000.

A company of Waterloo, N. Y., business men, with James R. Kelly at the head, have leased a plant at that place and will manufacture wire fence. The concern will be known as the Waterloo Wire Fence Company.

The S. Obermayer Company of Cincinnati, Ohio, manufacturers of foundry facings and supplies, report that they will be compelled to run their Cincinnati and Chicago plants day and night to supply the demand for their goods. They will also have their Philadelphia and Buffalo plants in full operation very shortly.

The King Bridge Company of Cleveland, Ohio, have been awarded the contract for the iron work of the new shops being erected by the Gould Car Coupler Company at the new town of Depew, near Buffalo, N. Y.

The Poughkeepsie, N. Y., water board has awarded the contract for a new pumping engine to the Holly Mfg. Company of Lockport, N. Y., for $29,500. A Gaskill engine will be put in.

The Southern Malleable Iron Company, Chattanooga, Tenn., have resumed operations after being closed down for several weeks and are now making four runs per day. The company recently bonded their plant for $50,000, the bonds being taken in a short time by a St. Louis firm at par. An addition 325 x 75 will be erected.

The Cahill Iron Works, Chattanooga, Tenn., report that they are full of orders. The foundry department is running full blast, and orders are on hand from all over the South for architectural iron work. The nickel-plating department is also a success, and the grates, &c., turned out find a ready sale.

Among recently authorized corporations in Illinois are the following: Street Brake beam Company, Chicago; capital stock $250,000; incorporators, Monroe L. Willard, Noble B. Judah and Solomon Webeles. The Kansas-Moline Plow Company, Moline; capital stock, $200,000; incorporators, George Stephens, Andrew Friberg, G. A. Stephens and F. G. Allen. The Hickey Wire, Iron and Brass Works, Kankakee; capital stock, $10,000; incorporators, M. H. Hickey, S. R. Moore and Tressie O. Hickey. The Chicago Belt Fastener Company, Chicago; capital stock, $25,000; incorporators, Peter Thacher, Harry M. Gardner and Robert S. Hill. Chicago Naphtha Motor Company, Chicago; capital stock, $40,000; incorporators, P. Parker, George M. Savage, Fred M. Clary. The Alpine Heights Eskilstuna Cultery Company, Chicago; capital stock, $30,000; incorporators, Christopher Anderson, Eric Swanson, W. W. Watson and others. The East Chicago Iron and Steel Company, Chicago; capital stock, $250,000; incorporators, Henry E. Weaver, Josiah J. Parkhurst and W. Vincent Baker.

TRADE REPORT.

The week under review has been rather uneventful In nearly all the markets it is becoming quite evident that the mills will make concessions from prices now ruling for finished material in order to secure winter work. The mill managers find that they can buy the raw material at close figures, and seem willing to take a very modest profit to capture "backbone" orders. It looks as though the long period of low prices were beginning to tell upon consumption by enlarging its range. This effect is generally anticipated much earlier than it naturally comes. But there is reason to believe that it is having its influence now. The consumption of Iron and Steel is enormous, considering that this is a period of moderate business activity, and certainly not a time of exuberant prosperity.

Pig Iron is getting into better shape in all the markets, Chicago reports larger sales, Cincinnati notes at least a few transactions at the recent advance, so that they come unexpectedly early, and Philadelphia records a stonger market.

There is more inquiry for Bessemer Pig in Eastern Pennsylvania, while Pittsburgh is quiet, with at least one large transaction under negotiation.

Billets are somewhat of a puzzle. Quiet in the Chicago market, they show some movement in Pittsburgh, with undercurrents which it is difficult to fathom. The story that an Eastern Iron mill had bought 15,000 tons each from the Carnegies and the Maryland Steel Company, the former at $21.85, Pittsburgh, is denied by buyer and seller. Sales of moderate quantities are reported by our Pittsburgh correspondent as low as $22.20. In the East Billets are held pretty well, in spite of the fact that business is moderate in volume. Wire Rods are dull and low, while from the Wire-Nail market comes the report of offerings as low as $1.45 in the Pittsburgh district.

Muck Bars and Skelp are both in quite active demand both in Eastern and in Western Pennsylvania.

Bar Iron manufacturers seem to be taking the lead in cutting prices to secure some winter work, but it is understood that the Structural and Plate mills would be quite willing to make attractive figures to get winter orders on their books.

Consumers of Copper have been placing contracts for October and November, and in some cases for December, deliveries, at 11½¢. The Tin market continues under the control of the leading manipulators. Lead has softened, and has sold as low as 4¢, and Spelter, too, is weaker. A little more interest is developing in Tin Plate.

Pittsburgh.

Office of *The Iron Age*, Hamilton Building, PITTSBURGH, October 4, 1892.

The first week in the last quarter of the year finds the Finished Iron and Steel trades in good condition, as far as demand is concerned, and prices are also fairly satisfactory for some lines of manufacture. A fairly large volume of business in raw Iron is going, but furnace operators state that the margin of profit is very small. As we have stated before, there is little or no prospect of better prices for Pig Iron until stocks have been very much reduced, and this, of course, will take considerable time. Taking the situation as a whole, it cannot be said to be entirely satisfactory, but it could certainly be much worse. In business circles everywhere considerable discussion is heard over the latest move made by the Carnegie Steel Company, Limited, in causing the arrest of all the members of the now famous Homestead Advisory Committee on a charge of treason. The opinion is expressed everywhere that this last charge will prove to be the most serious one that the strikers will have to face. As stated elsewhere, bail in the sum of $10,000 in each case is demanded, and it is very doubtful if all those for whom warrants have been issued will be able to furnish security in this amount for their appearance for trial when the cases are called. In all probability a start on the Homestead cases, in which murder, conspiracy and aggravated riot are the principal charges will be made about the middle of this month. It is probable that these cases will drag along through the courts for the next three or four months. It is known absolutely that the firm have secured sufficient evidence to insure conviction in many of the cases, and that some, if not all, of the strikers who took part in the Homestead riots on July 6 last will have to pay the penalty demanded by the laws for such acts as were committed on that memorable day.

Pig Iron.—Trade continues in fairly satisfactory condition, although the demand is not as large as makers hoped it would be with the great activity among the mills. The reason for this no doubt lies in the fact that some of the largest consumers of Pig Iron in this section have their wants fully covered for the balance of the year and will not enter the market until next year unless extremely favorable inducements are offered them to do so. On the other hand, there does not seem to be much disposition to force sales, as the impression prevails that prices cannot go much, if any, lower than they now are. This applies particularly to Mill Iron, several makers of which are declining to make contracts for next year's delivery at present ruling prices. With Bessemer Steel plants in operation at New Castle and Youngstown, much of the Bessemer Iron made in the Mahoning and Shenango valleys that now finds its way into the Pittsburgh market will be used at home, and this is advanced as one reason why the price of Bessemer Iron in Pittsburgh can be more easily maintained in the future than in the past. A good demand is reported for Gray Forge, and quite a number of sales, based on $12.50, Pittsburgh, were made during the past week. On Saturday last Hannah Furnace of the Mahoning Valley Iron Company, at Youngstown, Ohio, which has been idle for some months, was started up. Two stacks of the Isabella Furnace Company, at Etna, which have been idle during the summer months, will be put in operation at an early date. We quote the market as follows:

Neutral Gray Forge	$12.50	@ $12.75,	cash.
All-Ore Mill	12.50	@ 12.75,	"
No. 1 Foundry	14.00	@ 14.25,	"
No. 2 Foundry	13.00	@ 13.25,	"
Charcoal Foundry No. 1	19.50	@ 20.00,	"
Charcoal Foundry No. 2	19.00	@ 19.50,	"
Bessemer Iron	13.65	@ 13.80,	"

We note a sale of 2000 tons of Bessemer at $13.75 for October delivery, one of 3000 tons for November and December delivery at $13 70 and 2000 tons of Gray Forge at $12.50 for October delivery. One deal involving a large amount of Bessemer is on the *tapis*, but has not as yet been closed.

Ferromanganese.—As we have before stated, none of the foreign article has been sent to this market for some time, and, as a consequence, a very sharp advance in price for domestic has taken place. This advance amounts to about $2 ℔ ton, and we now quote 80 % Ferro at $62 @ $62.50, delivered at buyers' mill. We note a sale of 200 tons at $62, f.o.b. at buyer's mill. It is expected, however, that just as soon as foreign is again brought into this market in competition with domestic a decline in price will follow.

Muck Bars.—The extremely active demand noted for some time past continues, although not as much difficulty is experienced at the present time in securing prompt shipments of Muck Bar as prevailed two or three weeks ago. As we stated some time since, the mill of the Kittanning Iron Company, Limited, has been started up on Muck Bars, a greater portion of the product coming into the Pittsburgh market. We continue to quote No. 1 Bars at $24.75 @ $25. and note a sale of 500 tons at the last named figure. The activity in the market which has prevailed since the starting up of the mills has been in the nature of a surprise to many in the trade, as it will be remembered that previous to the shut down Muck Bar was probably the dullest department of the Iron and Steel trades.

Structural Material.—A continued active demand is reported, but we are advised that the starting up of one or two mills outside of the Pittsburgh district has visibly increased the supply and prompt shipments of material are obtainable without as much difficulty as prevailed some time since. It is also intimated that the starting up of these outside concerns has brought about pretty severe competition, and as a result buyers are able to do slightly better in prices. Much of the active demand for Structural Shapes at the present time can be traced to the fact that the building season is drawing to a close, and contractors who have buildings under way desire to get them under roof as soon as possible, before winter weather commences. We quote prices as follows: Beams and Channels, 1.95¢ @ 2¢ for desirable orders, and 2.05¢ @ 2.10¢ for small lots; Universal Mill Plates, Steel, 1.75¢ @ 1 80¢; Angles, 1.85¢ @ 1 95¢; Tees, 2.40¢ @ 2.50¢, and Z Bars, 2.05¢ @ 1.15¢.

Skelp Iron.—Mills making Skelp Iron continue to report an active demand, and the tonnage moving at this time is very large. In some cases where large lots are involved, there is quite a difference in the views of buyer and seller as regards prices, and in cases of this kind, it not infrequently occurs that concessions are made on both sides before the order is placed. Quotations named last week continue to represent the market, and are as follows: Grooved Skelp Iron, 1.60¢ @ 1.70¢, according to size; Sheared, 1 80¢ @ 1.90¢, four months, or 2 % off for cash.

Steel Rails.—The market is lifeless and does not show any change over reports printed for a number of weeks past. But very few orders are coming in, and these for small lots that summed up do not amount to anything like a reasonable tonnage. As noted before, the Edgar Thomson mill instead of starting up at 6 p.m. on Sunday night, as has been the custom heretofore, commences the week's operation now at 6 o'clock on Monday morning. Prices remain at $30 for Standard Sections. In this connection we can note that the market for Light Rails is in good condition, and a fair number of inquiries are in the market. The Carnegie Steel Company, Limited, will soon be producers of Light Rails varying in size from 30 to 45 lb to the yard.

Steel Plates.—A very fair business is going and some of the mills have their entire product booked up for some time to come. Competition to secure new business is very active, and where round lots are involved buyers secure the benefit of extremely favorable prices. As in the case with some other lines where prompt shipments are insisted upon, makers take advantage of the situation, and insist on the very best prices that can be obtained. For this reason there is considerable range in prices, due entirely to the time of shipments governing the order. We quote as follows: Flange, 2¢ @ 2.25¢, according to the time of delivery; Fire Box, 3.50¢ @ 3.75¢; Tank, 1.75¢ @ 2¢; Shell, 2¢ @ 2.25¢; Bridge Plates, 2¢ @ 2.15¢.

Soft Steel Billets.—That stocks of Billets in the hands of consumers are pretty low is shown by the large number of inquiries that have come into the market during the past week or ten days. This increase in inquiries was caused solely by the willingness of makers to name lower prices, and is conclusive evidence that a great deal of business is in sight, and will be placed just as soon as buyers and sellers bridge the chasm that has kept them so far apart for some time. Just now the market can truthfully be said to be in a perplexing condition. A majority of the mills in the Pittsburgh and Wheeling districts are understood to be pretty well fixed for business for the balance of the year, and as a consequence are not inclined to meet the views of buyers as regards prices for Billets for late delivery. On the other hand there are some mills not so favorably situated that are reaching out after business, and are naming favorable prices in order to secure it. Billets for October delivery continue to bring good prices and are ranging from $22 65 to $23. For November and December delivery considerably lower prices are named. We note a sale of 1000 tons at $22 65, and 2500 tons at $22.85, both for October delivery, f.o.b. at maker's mills; also a sale of 1000 tons for October and November delivery at $22.35, f.o.b. at maker's mill, and a sale of 3000 tons, equal deliveries in November and December, at $22 20, f.o.b. at maker's mill. Reports are going that Pittsburgh has participated in a large order placed by an Eastern concern and at a price said to be under $22 at mill. It is the unanimous opinion that the consumption of Billets from this time on will steadily increase, and makers do not apprehend any difficulty in securing enough business to keep them fully employed. It is stated that the Shenango Valley Steel Company have already booked a handsome amount of business.

Merchant Steel.—As far as volume of business is concerned, trade is very satisfactory, but as noted last week, much dissatisfaction is expressed by makers on account of the sharp competition that is prevailing. A recent contract involving some 300 tons of Tire Steel is said to have been taken by a local concern at a price equal to about 1.80¢. We quote the market as follows: Open-Hearth Spring, 2¢ @ 2 25¢; Tire, 2¢ @ 2.15¢, and Toe Calk, 2 25¢ @ 2.40¢; Tool Steel continues to rule at 6¢ and upward, according to quality.

Wire Rods.—The market does not show any change in condition over that of last week. The easing up in the price of Billets has weakened Rods to some extent, and prices may be quoted at $30 @ $31, f.o.b. at maker's mill. Pittsburgh is not cutting much of a figure in the Wire-Rod market just now, as there is practically only one concern here selling Rods, and they are understood to be favorably situated with orders.

Barb Wire.—The extremely low prices ruling for some time past has brought a number of buyers into the market and considerable business has been placed within the past ten days or two weeks. Prices are a little firmer, but not quotably higher. We quote Painted at $2.10 and Galvanized at $2.50, in carload lots, f.o.b. cars at Pittsburgh. We are advised that some large orders were recently placed at prices slightly lower than those named above.

Manufactured Iron.—The activity in the demand for Bars continues, and some mills still decline to book orders for shipment within 30 days. While the demand continues quite heavy, the mills seem to be able to take care of all the business offered, providing sufficient time is allowed them to take care of orders previously booked. There continues to be quite a difference in prices asked for Bars for prompt shipment over those calling for shipment during November and December. No. 1 Bars for shipment within ten days or two weeks after the order is received continue to bring 1.70¢ @ 1.75¢. For shipment during next month and December 1.60¢ @ 1.65¢ are ruling prices. Old Rail and Scrap Bars for immediate shipment we quote at 1 60¢, and for later shipment 1.50¢ is the ruling price. The same conditions existing in the Bar Iron trade prevail in Sheets, and where immediate shipments are demanded high prices continue to be obtained. We quote No. 24 Sheets at 2.75¢; No. 26 at 2.85¢, and No. 27 at 2.95¢. For shipments in November and later No. 24 may be quoted at 2.60¢; No. 26 at 2.70¢, and No. 27 at 2.80¢, all 60 days, 2 % off for cash.

Wire and Cut Nails.—Wire Nails for shipment during October continue very active, and mills are pushed to their utmost capacity in order to get out business that was booked for shipment during this month. It is expected that October will see the winding up of the building season, and this is given as the reason why contractors are insisting on immediate shipments. For shipment during this month Wire Nails may be quoted at $1.55 and $1.60 in carload lots. For shipment during November and later, mills are willing to name lower prices, and it is understood that one large concern has taken quite a number of orders based on $1 50, Pittsburgh. We therefore quote Wire Nails for shipment during November and after at $1.50 @ $1.55 in carload lots. The same conditions existing in Wire Nails prevail to a great extent in the Cut Nail market, although the production of Cut Nails at the present time is probably larger than for some months past. In the Wheeling district four concerns are in operation, these being Jefferson Iron Works, Laughlin Nail Company, La Belle Iron Works and Junction Iron Company. The capacity for production of these four concerns is very large, but notwithstanding this fact, it is understood that all of them are well supplied with business for some time to come. As in the case with Wire Nails, buyers are anxious to procure prompt shipments, and Cut Nails for shipment during October may be quoted at $1.50 @ $1.55 for 30¢ averages. For shipment after November 1 prices may be fairly quoted at $1.45 @ $1.50 in carload lots.

Wrought Iron Pipe.—A fair amount of business is going, and several mills who participated in the large orders recently placed and noted in these columns are operating their mills to their full capacity. There is probably no department of the Iron and Steel trade that has been in such an unsatisfactory condition for some time past as the Pipe and Tube business, and any change for the better will be

heartily welcomed by makers. Discounts are unchanged and are as follows: Black, Butt, 60 and 10 %; Lap, 70 %; Galvanized, Butt, 50 and 10 %; Lap, 60 %; Boiler Tubes, up to 2¾-inch, inclusive, 60 %; 3 inches and larger, 65 %; Casing, 55 %; Inserted Joint Casing, 50 %. It is understood that these discounts have not been strictly adhered to for some time.

Old Rails.—The improvement in Old Iron Rails noted in our issue of last week does not seem to have had much backbone, from the fact that we are advised that prices have weakened to some extent within the last week or ten days. This weakness was no doubt caused by large offerings being made immediately after the advance in prices took place. Offers of Old Iron Rails in the Mahoning Valley at $20.25 have been declined. We quote the market at $19.50 @ $20, delivered in Mahoning Valley. Old Steel Rails do not show any change, and we quote short lengths at $15.25 @ $15.50; miscellaneous lengths, $15, and long lengths, $16.

Scrap Iron and Steel.—A very slight improvement in inquiries for both Iron and Steel Scrap is reported, but have not as yet had any effect on prices. The immense stocks of Scrap material piled up in Pittsburgh and elsewhere make it almost impossible for any decided advance in prices to take place until these stocks have been materially reduced. In the absence of any recent sales on which to base prices, we repeat old quotations as follows: No. 1 Railroad Wrought Scrap, $14 @ $14.50 ℔ net ton; Cast Scrap, $11.50 @ $12 ℔ gross ton; Billet and Bloom Ends, $16 ℔ ton; Cast-Iron Borings, $6.50 @ $7 ℔ gross ton; Railroad Coil Springs, $17.50 @ $18 ℔ gross ton; Leaf Springs, $19.50 @ $20; Old Steel Axles, $18.50 @ $19 ℔ gross ton.

Chicago.

Office of *The Iron Age*, 59 Dearborn street, CHICAGO, October 4, 1892.

Pig Iron.—Pig Iron is taking the lead in point of activity just now, and it can be said with confidence that this branch of the Iron trade is in very much better shape than it has been at any previous time for months. Large sales of both Coke and Charcoal Iron have been made since our last report, and, while prices have not advanced, the inclination to cut appears to have wholly ceased on the part of the local and Southern furnaces. Buyers outside of the city are taking considerable Iron, as well as the local foundries. Quite a number of consumers are endeavoring to buy for long deliveries, but they are finding makers disinclined to contract very far ahead. The representatives of Ohio furnaces making Strong Softeners say that they have not for a long while been able to sell their Iron so easily. The demand in their case is for small lots for sharp delivery, but there are plenty of such orders. The whole situation has changed very decidedly, and if the Southern Iron manufacturers maintain their present attitude of firmness the future will see not only an increased demand for Iron, but better prices. Reports at hand from the leading Southern furnaces state that stocks have been greatly reduced within the past month and that current production is now hardly equal to the demand. It is to be hoped that this is true, as it is the key to the situation in this section. Quotations are as follows, cash, f.o.b. Chicago:

Lake Superior Charcoal	$16.50 @ $17.00
Local Coke Foundry, No. 1	14.50 @ 14.75
Local Coke Foundry, No. 2	13.50 @ 14.00
Local Coke Foundry, No. 3	13.25 @ 13.75
Local Scotch	15.00 @ 16.00
Ohio Strong Softeners	16.25 @ 17.00
Southern Coke, No. 1	14.50 @ 15.00
Southern Coke, No. 2	13.35 @ 13.85
Southern Coke, No. 3	13.00 @ 13.25
Southern, No. 1, Soft	13.35 @ 13.85
Southern, No. 2, Soft	12.85 @ 13.10
Southern Gray Forge	12.50 @ 13.00
Southern Mottled	12.50 @ 12.75
Tennessee Charcoal, No. 1	17.50 @ 18.00
Alabama Car Wheel	18.85 @ 19.85
Coke Bessemer	15.50 @ 16.00
Hocking Valley, No. 1	17.00 @ 17.50
Jackson County Silvery	17.00 @ 17.50

Manufactured Iron.—While no special change has taken place in the Bar Iron market a good, steady demand is reported, and sellers have no trouble in disposing of such Iron as the mills have to offer. Here and there a slight shading is reported on the part of some of the local manufacturers, but it is not serious and may be made for a special purpose. The valley mills are firm at 1.50¢ @ 1.55¢, half extras, at mill, which is equal to 1.65¢ @ 1.70¢ here at the advanced freight rate. Soft Steel Bars are unchanged at 1.80¢ @ 1.85¢, Chicago, with a moderate amount of business. Jobbers continue to quote Bar Iron from store at 1.85 @ 1.95¢ and Soft Steel Bars at 2¢ @ 2.10¢. The general condition of the Structural trade is very good. Quite a considerable tonnage is being entered from day to day. Prices of Beams range from 2.15¢ to 2.50¢, according to quanity, time of delivery, &c. Numerous inquiries are received for small lots of Angles. Prices are quoted at 2¢ @ 2.25¢ for quick shipment and 1.90¢ @ 1.95¢ for future delivery, but the leading manufacturers are asking a somewhat higher rate for bridge specifications. Universal Plates are quoted at 2.05¢ @ 2.15¢, and appear to be firm at these figures. The advanced freight rates from the East are now having an effect on Plate quotations from Eastern mills, and there is an absence of the disposition to shade which was apparent last week. Tank Steel for shipment by all rail is quoted at 2.10¢ @ 2.40¢, Chicago, according to quantity and make, while Flange Steel ranges from 2.45¢ to 2.75¢, with an advance of $\frac{2}{10}$¢ @ $\frac{3}{10}$¢ on these prices from stock. Black Sheets and Galvanized Iron are unchanged. Merchant Steel continues to be in moderate demand at old prices.

Billets and Rods.—The Billet trade has settled down to a quiet state of affairs, with a moderate volume of business at $24.50. Rods are firm at $34.50, as local makers are well sold up.

Rails and Track Supplies.—Nothing new has occurred in the Rail trade. Inquiries are rather light except for schemes for new lines, which are more abundant than for some time in consequence of the greater ease in financial circles, but they have not yet taken such shape that the manufacturers are ready to consider the inquiries from this source in the nature of actual business. Standard Sections are unchanged at $31 @ $32.50, according to quantity. Iron and Steel Splice Bars continue to be quoted at 1.70¢ @ 1.75¢; Track Bolts with Hexagon Nuts at 2.60¢ @ 2.70¢, and Spikes, 2.10¢ @ 2.15¢.

Old Rails and Wheels.—No transactions in Old Iron Rails have transpired. Buyers and sellers appear to be too far apart in their views. Consumers talk $17.75, while dealers who appear to be controlling stocks here ask $1 more. Old Steel Rails are quiet, with quotations for short pieces maintained at $12.50 and long lengths at $14 @ $14.25. Old Car Wheels are still dull, with nominal quotations $14.75 @ $15.

Scrap.—A moderate business only is in progress, but dealers appear to attach more importance to the recent revival of inquiries than the facts warrant. They have an impression that prices are on the upward turn, and some of them are asking more for material than they would have been glad to sell at a week or two since. We make no change in quotations, believing that they represent about a fair level of values. No. 1 Railroad, $16 @ $16.50; No. 1 Forge, $15 @ $15.50; No. 1 Mill, $11; Pipes and Tubes, $10; Horseshoes, $15.50; Sheet Iron, &c., $6; Cast Borings, $5.75; Wrought Turnings, $8; Axle Turnings, $9.50 @ $10; Machinery Cast, $11.50 @ $12; Stove Plate, $9; Malleable Cast, $10; Car Axles, $18.50 @ $19; Fish Plates, $17.25; Mixed Steel, gross ton, $10.50 @ $11; Coil Steel, $15; Leaf, $16.50, and Tires, $15.

Metals.—Lake Copper is now quoted at 11.50¢ for carloads and 11.75¢ small lots. During the week it receded a trifle below this, but is now stronger, although trade is still rather quiet. Casting Copper sells at 10.50¢ in carloads and 10.75¢ small lots. Spelter is very weak, with carloads of M. & H. quoted at 4.31¢, and Rich Hill and other favorite brands 4.40¢. The week has been very quiet in Pig Lead, only small sales being reported at 3.90¢.

Philadelphia.

Office of *The Iron Age*, 220 South Fourth St., PHILADELPHIA, Pa., October 4, 1892.

The last quarter of the year opens with a more cheerful appearance than seemed probable a month or two ago. The volume of business is very large, and while prices are not a great deal better, they are improving, and may perhaps reach a satisfactory level before the year closes. The chief point for congratulation is that general business is good. Activity is specially notable among the smaller class of trades, although in some of the larger, such as rail and in car building, there is no reason to expect anything beyond a continuance of work on about the small scale as during the earlier months of the year. But taking everything into account, a large and well-distributed business is being done, with prospects of further expansion in the near future. As regards prices, there is more or less uncertainty, owing to a combination of circumstances, the outcome of which cannot be definitely estimated, such, for instance, as a large decrease in the production of Pig Iron, with precisely an opposite state of affairs in Finished Material, viz., a continuous increase. What these contradictory influences will develop it is impossible to say, and as most of those in the trade are equally mystified, it goes without saying that purchases (and to some extent sales) are restricted to present necessities. The encouraging features are: First, firm and somewhat higher prices for Pig Iron, showing that consumption is a little in advance of production. Second, a large amount of orders in hand for Finished Material, and third, an active inquiry for prices based on contracts for work likely to be given out soon, but which for the present is merely under negotiation. The only disturbing feature is the rapid increase in productive capacity, some of which could be placed in operation immediately, and more that could be utilized almost as soon as orders can be secured to warrant the machinery being set in motion. With these contradictory influences in sight, it is not surprising that prices are irregular, although on the whole there are more strong places than there are weak ones, and for the time being the tendency is undoubtedly toward firmer, if not higher prices, although as we said before, the market is not without some weak spots.

Pig Iron.—The talk is decidedly stronger in this branch of the Iron trade. Holders are asking more money, some decline to concede the smallest fraction from their advanced prices, others meet buyers half way and a very few may, once in a while, accept special orders at the old figures. But it is evidently a sellers' market, and anything less than asking prices is conceded more as a favor than as a matter of necessity. Deliveries from furnaces have been called for with unusual urgency, and as several leading companies have sold their entire output for the balance of the year, there is comparatively little Iron for sale.

It is true that several large furnaces will be put in blast soon, but even these have a great deal of Iron sold, so that under any circumstances the market for some time to come is likely to be firm—if not higher. These remarks apply to all grades of Iron, low grades at low prices, medium at medium prices or standard at full prices, are alike well cleaned up, so that any one wishing to buy heavily would not have much time to look around for bargains, and probably would have to pay regular prices after all. Taking everything into consideration therefore, it may be asserted that the improvement noted a week ago has been fully maintained, and that actual selling prices average probably 25¢ more money. General quotations from Philadelphia deliveries or its equivalent, are about as follows, and for some Southern brands 25¢ to 40¢ less for South and Central Pennsylvania, or Maryland.

American Scotch, No. 1x	$17.00	@	$17.50
American Scotch, No. 2x	16 00	@	16.50
Standard Penna. (Lake Ore), No. 1x	15.00	@	15.50
Standard Penna. (Lake Ore), No. 2x	14.25	@	14.50
Standard Penna. (Lake Ore), No. 2 plain	13.50	@	13.75
Medium Quality, No. 1x	14 25	@	14.50
Medium Quality, No. 2x	13.50	@	14.00
Standard Virginia, No. 1x	14.75	@	15.00
Standard Virginia, No. 2x	14.00	@	14.50
Virginia and Southern, No. 1x. Soft	14.25	@	14.50
Virginia and Southern, No. 2x. Soft	13.50	@	13.75
Standard Penna. and Virginia Forge	13.25	@	13.75
Ordinary Forge	12.75	@	13.00
Hot-Blast Charcoal	17.00	@	19.00
Cold-Blast Charcoal	23.00	@	25.00

Bessemer and Low-Phosphorus Pig.—There is a disposition to buy liberally at the old figures, but it is a difficult matter to secure much business at asking prices, which are $16 @ $16.25 at furnace for Standard Bessemer, and $17.50 @ $17.75 for Low Phosphorus.

Ferromanganese.—Nominal prices are from $60.50 @ $61 for 80 %, with sales of small lots at the inside figure.

Steel Rails.—No change whatever. There is a fair demand for small lots, but nothing important is being done, and prices remain as before, $30 f.o.b. cars at mills. A sale of 10,000 tons was made recently to the New York Central by a mill in Eastern Pennsylvania.

Steel Billets.—Not much business doing, but what there is seems to be at very full prices. There is plenty of talk of Billets at $24.75 @ $25, but it is as hard to find anybody that bought at these figures, as it is to find any one willing to sell. Sales have been made for Schuylkill Valley points at $26 @ $26.25 for spot delivery, $25.50 @ $25.75 would be paid for the last half of the month, $25.25 for November, and $25 for December. But makers seem to have their order books full, and unless at about 25¢ higher than the figures mentioned, they are not soliciting business. There is the usual talk of a larger supply later on, which may be perfectly true, but in the meanwhile, buyers are doing the looking around, from which it may be inferred that mills have plenty of orders on their books, and not likely to add to them unless at prices satisfactory to manufacturers.

Muck Bars—October deliveries command $26.25 @ $26.50 delivered; November, $25.75 @ $26, and December, $25.50 @ $25.75. There is a good demand, with only very moderate offerings.

Bars.—The demand is somewhat disappointing, and as there is now a full average production, mills have to compete sharply to secure enough business to keep them running. Prices are irregular and almost down to the low figures quoted during the earlier months of the year, and with nothing that seems to promise much improvement for the present. Nominal quotations are 1.70¢ @ 1.75¢ for best qualities city delivery, and about 1.65¢ at interior points, but on the right kind of an order these figures could be shaded. All depends on what quantity and quality a buyer may call for.

Skelp.—There are inquiries in the market for very large quantities, but mills in this vicinity are so well filled up that they are hardly in a position to quote acceptable prices. Nominal figures are 1.62½¢ @ 1.65¢, delivered, for Grooved, but buyers expect to do better than that for large lots, winter work. Quick deliveries would probably command full prices.

Plates.—In this department business seems to keep up surprisingly well. The capacity is very large, but mills are nearly all working to their full capacity, and with plenty of inquiries based on actual requirements, manufacturers feel confident of their position during the balance of the year. Firm prices are therefore quoted and maintained, particularly by those who can turn out a full line of sizes, and especially for heavy Plates. Some of the smaller mills have to cut a little to get their share of business, but taking the market all the way through it is showing great strength. Prospects are thought to be unusually favorable both for ship and bridge building, as well as for Structural work, which promises to be very heavy. The elevated railway in this city, which will require 30,000 to 40,000 tons of material, is likely to be put through soon, in spite of all opposition from the surface roads. Business at the shipyards is already in a very satisfactory condition, besides which it is said that work on the ocean flyers will be certainly commenced in a very short time. Meanwhile general quotations are about as follows, delivered:

	Iron.	Steel.
Tank Plates	1.85 @ 1.90¢	1.90 @ 2.00¢
Shell		2.20 @ 2.30¢
Flange	2.70 @ 2.90¢	2.50 @ 2.60¢
Fire Box	3.00 @ 4.00¢	2.70 @ 2.80¢
Special qualities		3.25 @ 3.75¢

Structural Material.—The demand is quite active for early deliveries, and as many of the mills have their capacity fully engaged for the balance of the year, it is not easy to place orders unless by paying full quoted rates. In some quarters there is a disposition to cut prices a little on large orders for winter work, but as a rule last week's prices are maintained, as follows: Angles or Sheared Plates, 1.95¢ @ 2¢, delivered; Universals, 2.05¢ @ 2.10¢, and Beams, Channels or Tees, 2.20¢ @ 2.30¢.

Sheets.—The demand is very active for thin Sheets, and, while no quotable change can be made, the feeling is distinctly firmer, as mills are crowded with work. Sales chiefly at about the following prices, viz.:

Best Refined, Nos. 14 to 20	2.75¢ @ 2.85¢
Best Refined, Nos. 21 to 24	2.90¢ @ 3.00¢
Best Refined, Nos. 25 to 26	3.15¢ @ 3 20¢
Best Refined, No. 27	3.30¢ @ 3.40¢
Best Refined, No. 28	3.40¢ @ 3 50¢

Common, ¼¢ less than the above.

Quotations given as follows are for the best Open-Hearth Steel, ordinary Bessemer being about ¼¢ lower than are here named:

Best Soft Steel, Nos. 14 to 20	3¢ @ 3¼¢
Best Soft Steel, Nos. 21 to 24	3¼¢ @ 3½¢
Best Soft Steel, Nos. 25 to 26	3½¢ @ 3¾¢
Best Soft Steel, Nos. 27 to 28	3¾¢ @ 4¢

Best Bloom Sheets, ¼¢ extra over the above prices.

Best Bloom, Galvanized, discount	@ 70 %
Common, discount	@ 72½ %

Old Material.—There is more business doing, and holders have little difficulty in placing good stock at about the following figures, viz.: Old Iron Rails, $19 @ $20, delivered; Old Street Rails, about $23, delivered; Old Steel Rails, $16 @ $17, delivered; No. 1 Railroad Scrap, $17 @ $17.50, Philadelphia, or for deliveries at mills in the interior, $17 @ $18, according to distance and quality; $12 @ $12.50 for No. 2 Light; $12 @ $13 for best Machinery Scrap; $13 @ $14 for Wrought Turnings; $8.50 @ $9 for Cast Borings, and nominally $21 @ $22 for Old Fish Plates, and $14.50 @ $15 for Old Car Wheels.

Wrought-Iron Pipe.—There is a good demand, but prices are irregular, and while discounts are supposed to be as given below, it is quite a common occurrence to hear of 2½ % @ 5 % extra to desirable customers:

Butt, Black	60 & 10 %
Butt, Galvanized	52½& 10 %
Lap, Black	70 & 10 %
Lap, Galvanized	60 & 10 %
Boiler Tubes, 3 inches and larger	67½ %
Casing	60 %

Cincinnati.

(By Telegraph.)

Office of *The Iron Age*, Fourth and Main Sts., CINCINNATI, October 5, 1892.

After the unusual activity reported for the previous week there succeeded a lull, which was not unnatural, and during the past week the volume of business in Pig Iron has been of small proportions, but the market has lost none of its confidence of tone, for there were buyers of nearly all grades at the prices previously obtained, but sellers insisted upon an advance of 25¢ @ 35¢ ℔ ton, and while this was realized for moderate quantities buyers are not ready to pay it for important and large lots, but so strong is the undertone of the market that higher quotations seem to be warranted for Gray Forge, and for Foundry Iron the advance has been obtained for 500-ton lots and in at least one instance for a lot of 2000 tons. Buyers, as a rule, say that if they have to pay the higher prices they will wait until they must have the Iron and not anticipate their wants, and that appears to be what they are doing, for while the tonnage for the week is comparatively light, in the aggregate it compares favorably with many weeks of the past two months, and it is quite certain that better prices are realized than have previously prevailed for small quantities. Quotations are as follows:

Foundry.			
Southern Coke, No. 1	$13 25	@	$13.50
Southern Coke, No. 2	12.25	@	12.50
Southern Coke, No. 3	11.75	@	12.00
Ohio Soft Stone Coal, No. 1	16.00	@	16.50
Ohio Soft Stone Coal, No. 2	15.00	@	15.50
Mahoning and Shenango Valley	16.60	@	17.25
Hanging Rock Charcoal, No. 1	19.75	@	20.00
Hanging Rock Charcoal, No. 2	19.00	@	19.50
Tennessee and Alabama Charcoal, No. 1	16.50	@	17.00
Tennessee and Alabama Charcoal, No. 2	15.50	@	16.00
Forge.			
Gray Forge	11.25	@	11.50
Mottled Neutral Coke	11.00	@	11.25
Car Wheel and Malleable Irons.			
Standard Southern Car Wheel	18.75	@	19.00
Lake Superior Car Wheel and Malleable	17.75	@	18.00

St. Louis.

Office of *The Iron Age*, Bank of Commerce Building, ST. LOUIS, October 3, 1892.

Pig Iron.—The market continues in much the same condition as last reported. The demand is improving and prices are steady though unchanged. Offerings are less free than they were two or three weeks since, and prices are naturally held firmer in consequence. Furnaces are holding off for the recent advance of 25¢ ℔ ton, and consumers are gaining renewed confidence in the market as the position taken by the furnaces becomes known. There is still more or less low-priced Iron on the market, but this is gradually being disposed of, and the immediate future looks brighter than it has for some time past. Stocks on the furnace banks are being decreased, and as the demand is improving at the same time, a better feeling all round prevails. Local consumers are not heavily stocked

and will shortly be compelled to enter the market as buyers, and with any kind of a steady demand a firm adherence to to-day's prices seems assured. The demand during the past week was very satisfactory. The present week will doubtless be dull, as the city will be crowded with visitors to the "Great Fair," and business will be, to a large extent, suspended. For ordinary quantities we quote as follows for cash, f.o.b. St. Louis.

Southern Coke, No. 1 Foundry,	$13 75 @ $14 00
Southern Coke, No. 2 Foundry,	12 75 @ 13.00
Southern Coke, No. 3 Foundry,	12 25 @ 12 50
Gray Forge	11.75 @ 12 00
Southern Charcoal, No. 1 Foundry	15.25 @ 15.75
Southern Charcoal, No. 2 Foundry	14.75 @ 15 00
Missouri Charcoal, No. 1 Foundry	14.25 @ 14.50
Missouri Charcoal, No. 2 Foundry	13 75 @ 14.25
Ohio Softeners	16.25 @ 16.75

Bar Iron.—There is no change to note in this connection. Mills report a steady trade at unchanged prices. Inquiries received would seem to indicate a continuance of activity in this department during the balance of this year. We quote as follows: Lots from mill, 1.65¢, half rates, f.o.b. cars East St. Louis. Jobbers quote 1.80¢ @ 1.85¢, according to quantity.

Barb Wire.—The demand is only fair, and prices do not improve in any shape whatever. Mills quote $2.20 for Painted and $2.65 for Galvanized, which prices are shaded to large buyers.

Wire Nails.—Prices are weaker than last reported and trade is dull. There are one or two outside mills who seem very anxious to gain a foothold in this territory, and to enable them to do so are making some low prices, which only tends to demoralize the market and results in no benefit to themselves. Local mills are quoting $1.65 @ $1.70, f.o.b. St. Louis, and do not appear unwilling to accept orders at less than these prices.

(*By Telegraph.*)

Pig Lead.—Trade is a trifle more active than last reported; a sale of 100 tons of Soft Missouri made to-day at 3.80¢, with more offering at the same price.

Spelter.—This metal is extremely weak for the past few days and has been freely quoted at 4.15¢, but few sales have been made at this figure. The market is feverish and the outlook for higher prices is not very encouraging.

Detroit.

WILLIAM F. JARVIS & Co. of Detroit, Mich., under date of October 3, write: That trade is considerably better in certain directions there can be no doubt, as we have now had several weeks of comparative activity in Lake Superior Charcoal Pig Iron and in finished material. Prices have in no way changed for Pig Iron, but the periods of settlement have been confined to shorter space, and deliveries have been wanted quickly, and all this has been entirely unexpected by the furnacemen. The demand for finished material for buildings and car purposes has been good. Prices have been fully maintained and in some spots advanced. The great difficulty seems to be the ability of the mills to furnish as promptly as desired. While noting the above good features of the market we deplore the fact that Southern Iron is a shade lower than ever, and Bessemer and Northern Coke Irons are no better than they have been during the long period of depression. But the point where the consumption is equaling the production, and really shows a slight excess over the present rate of production, having been reached, the more hopeful ones feel that there is something to look forward to. There have been no notable transactions in the local market within the past week, beyond the placing of a few hundred tons of Lake Superior Charcoal Iron and one considerable order for finished material. We quote the present market figures on the following basis:

Lake Superior Charcoal, all numbers	$16.50 @ $17 50
Lake Superior Coke, Bessemer	16.00 @ 16.50
Lake Superior Coke Foundry, all ore	16.00 @ 17.00
Standard Ohio Blackband (40 per cent.)	16.50 @ 17.00
Southern No. 1	14.50 @ 15.00
Southern Gray Forge	12.50 @ 13.00
Jackson County (Ohio) Silvery	17.75 @ 18.25

Cleveland.

CLEVELAND, OHIO, October 3, 1892.

Iron Ore.—The market is somewhat more active and considerable Bessemer Ore is being sold at figures close to $4 ℔ ton, f.o.b. vessels lower lake delivery. Notwithstanding this fact local papers continue to quote these Ores at $4 25 @ $4.50, and the high-grade Ores that have been practically sold up at $4.85 @ $5.15 f.o.b. vessels Cleveland, at $5 @ $6. The carrying rates have changed but little, the Escanaba rate remaining at 75¢, while from Marquette $1.10 is charged, and from Ashland and Two Harbors $1.20 ℔ ton. Receipts of Ore are heavier than for the corresponding week one year ago, 63,000 tons having been unloaded on the local docks, as against 51,000 tons for the same week last year. That the receips from the mines are far in excess of the call from the furnaces is apparent in the statement that only 25,000 tons of Ore were sent forward last week, while during the same week in 1891, 38,000 tons were sent along. Still, for the month of September the receipts of Ore from Lake Superior ports were about 50,000 tons below those for September, 1891, while the shipments to furnaces were 179,000 for September, 1891, and 137,000 for September, 1892. It is evident that 2,000,000 or 3,000,000 tons of Ore will be sold some time during the fall and winter, but just when buyers will think it best to buy is hard to determine.

Pig Iron.—There are absolutely no new features. Some demands are reported, but it is said that buyers are so exacting that there is nothing for the dealers in forcing the transactions. Just what it is that buoys up the hopes of the dealers is past finding out, but certain it is that they look for some improvement within the next few days. We hear of no sales of importance. Dealers quote:

Nos. 1 to 6 Lake Superior Charcoal	$16.50 @ $17.00
Nos. 1, 2 and 3 Bessemer, per ton.	14.00 @ 14.25
No. 1 Strong Foundry, per ton	14.25 @ 14.50
No. 2 Strong Foundry, per ton	13 25 @ 13 50
No. 1 American Scotch, per ton.	14.50 @ 14 75
No. 2 American Scotch, per ton.	13.75 @ 14.10
No. 1 Soft Silvery, per ton	15.00 @ 15.50
Mahoning and Shenango Valley Neutral Mill Irons, per ton	13 00 @ 13 25
Mahoning and Shenango Valley Red Short Mills, per ton	13.25 @ 13.50

Old Rails.—The market continues to improve, although buyers find no difficulty in obtaining all the old American needed at $19 @ $19 50 per ton.

Nails.—The market is rather easy this week, and in fact there is little demand for Cut Nails at $1.65 or for Steel Wire Nails at $1.70 per keg in stock.

Manufactured Iron.—Bar Iron seems in very fair demand at 1.60¢ @ 1.65¢ from the mills.

Scrap.—The market has improved in some respects, and the demand is certainly better. No. 1 Railroad Wrought is fairly firm at $16.50 @ $17; Cast Scrap at $12 @ $12.50, and Wrought Turnings at $8 @ $8.50.

Barb Wire.—Although the market is dull just at present, an early improvement is anticipated.

New York.

Office of *The Iron Age*, 96-102 Reade street, NEW YORK, October 5, 1892.

Pig Iron.—Nothing new of any consequence has developed in this market during the past week. We quote Northern brands at $15 @ $15.50 for No. 1; $14 @ $14.50 for No. 2; $13 @ $13.50 for Gray Forge, tidewater. Southern Iron, same delivery, $14.25 @ $15 for No. 1; $13 25 @ $14 for No. 2 and No. 1 Soft; $12.75 @ $13.50 for No. 2 Soft; $12.25 @ $13 for Gray Forge.

Ferromanganese.—Importers are in receipt of a good many inquiries, but it is only within the last few days that buyers have come up to figures representing the views of holders. We quote $60 @ $60.50 for 80 % foreign Ferromanganese. Spiegeleisen is absolutely lifeless, with no orders in sight for the present.

Billets and Rods.—This market is very quiet both in foreign and domestic material. We quote foreign Wire Rods nominally $41 50 @ $42; domestic Rods, $33 50 @ $34; Swedish Rods, $54 50 @ $56, and foreign Billets, $30 @ $30.50.

Steel Rails.—There is no improvement. Sales are confined to small lots, with only one 8,000 ton order in sight. Prices remain $30 at Eastern mill.

Manufactured Iron and Steel.—The demand for prompt delivery is still quite good and mills are in fair shape. During the week under review no sales of any special magnitude or interest have been closed. We note one lot of 3500 tons of Steel Hoops at private terms, winter delivery. We quote Beams, 2.35¢ @ 2.75¢ for small lots and 2 20¢ @ 2.50¢ for round lots, according to sizes; Angles, 1.95¢ @ 2¢; Sheared Plates, 1.85¢ @ 2.10¢; Tees, 2.30¢ @ 2.75¢; Channels, 2.25¢ @ 2.50¢, on dock. Car Truck Channels, 2¢ @ 2.10¢. Steel Plates are 1.9¢ @ 2¢ for Tank; 2.20¢ @ 2.25¢ for Shell; 2.50¢ @ 2.65¢ for Flange; 2.6¢ @ 2.75¢ for Marine, and 3¢ @ 3.25¢ for Fire Box, on dock. Refined Bars are 1.8¢ @ 1.9¢, on dock; Common, 1 6¢ @ 1.65¢. Scrap Axles are quotable at 1.95¢ @ 2.10¢, delivered. Steel Axles, 1.95¢ @ 2.1¢, and Links and Pins, 2¢ @ 2.20¢; Steel Hoops, 1.90¢ @ 2¢, delivered. Cotton Ties, 85¢ @ 90¢, at mill.

Merchant Steel.—We quote Machinery, 1.80¢ @ 1.85¢; Tire, 1.85¢ @ 2¢; Toe Calk, 2.20¢ @ 2.30¢, and Sleigh Shoe, 1.75¢ @ 1.80¢, delivered.

Track Material.—We quote Spikes, 1.90¢ @ 2¢; Fish Plates, 1.60¢ @ 1.65¢; Track Bolts, square nuts, 2.40¢ @ 2.60¢, and hexagon nuts, 2.70¢ @ 2.80¢, delivered.

Pig Iron Warrants.—The American Pig Iron Storage Warrant Company report as follows:

	Tons.
Stock in yard August 31, 1892	84,700
Put in yard for 30 days ending September 30, 1892	1,400
Total	86,100
Withdrawn 30 days ending September 30, 1892	1,900
Net stock in yard September 30, 1892	84,200

Financial.

The last quarter of the year opens auspiciously. Cholera has vanished, leaving no permanent traces. A splendid corn crop has matured, with results probably exceeding common estimates. The International Monetary Conference has been called to assemble in Brussels on Novem-

ber 22 next, the Belgian Government having signified its approval and the leading powers having concurred in the selection. The drain upon the banks and consequent reduction of the reserves has ceased and a rise in the local rates of interest, making New York a profitable market for idle balances, has put a check on the outflow of gold to Europe. Reasonably easy money in New York is therefore expected for some time to come. Though London has for the present ceased to return American securities foreigners evince little disposition to buy, and the inference is that Europe will await the outcome of the silver conference and future legislation in the United States with reference to silver coinage before engaging largely in speculative operations. An event of the week is the dissolution of the Western Traffic Association and the probability of further demoralization, but there is reason to believe that the railroad companies will abstain from measures permanently detrimental to the transportation interests. Traffic in the agricultural regions exceeds the heavy business done last year and the amount of grain to be marketed is so large that activity will continue up to the close of navigation. Until that time cut rates between New York and St. Paul will be continued by the Soo and Great Northern routes.

The stock market has been extremely dull, with transactions limited to Reading, New England, Chicago Gas and a few others. Erie was weak in consequence of decreased earnings and also because of selling for European and local account. The effect of the news of excellent weather for corn, insuring the making of the crop, was partially counteracted, so far as the grangers were concerned, by a reduction of 50 % in the Iowa crop and by bearish demonstrations based upon the expected dissolution of the Western Traffic Association. Toward the close of the week, however, there was some improvement. On Monday there was a wild scramble for New England, which seemed to be encouraged by the story that the Boston & Maine will absorb the New England, and it was reported that the purchases was largely by Vanderbilt brokers. At the same time there was an advance in Reading, Erie, the grangers, Louisville & Nashville, Missouri Pacific and Atchison, Topeka & Santa Fé. About the only weak spot was Hocking Valley, which was freely sold because of the paralleling of the system by the Toledo & Ohio Central through its purchase of the Toledo, Columbus & Cincinnati. One feature was a rise in Denver preferred, which seemed to feel the effect of increased earnings and of recent statements that a dividend will be declared early next year. The improvement was aided by purchases for London account, which were of sufficient importance to cause a weakening in the rates of sterling exchange when coupled with the offerings of commercial bills.

United States bonds were quoted as follows:

U. S. 4½s, 1891, extended	100
U. S. 4s, 1907, registered	114
U. S. 4s, 1907, coupon	114
U. S. currency 6s	107

Money was more active, influenced by preparations for October disbursements, which will amount in the aggregate to $33,000,000, including upward of $11,300,000 in dividends. Time money is 5 % for 60 to 90 days and 5½ @ 6 % for four months and six months on good mixed Stock Exchange securities. Mercantile paper was in better demand. Prime indorsed bills receivable sell at 5 @ 5½ %; first-class single name, four months, at 5½ @ 6 %; good names and out-of-town names at 6 @ 7 %. The bank return showed a loss of $1,639,700 in cash, and of $658,675 in surplus reserve, leaving this item at $4,392,400. Foreign bankers were the largest lenders. Foreign exchange lower and weak. Posted asking rates $4.86½ @ $4.88.

Bar silver in London, 32½d. per ounce. New York dealers' price for silver, 83¼¢ per ounce.

The general markets have few salient features. Wheat has been severely depressed for several days by heavy receipts and light exports. The visible supply increased 2,940,000 bushels. Prices are about the lowest on record and flour moved in sympathy. Corn, favored by fine weather, promises a larger yield, and in consequence prices further declined. Provisions were generally firm, but quiet, stocks being small and in easy control. Cotton was active, sales for the week amounting to 1,000,000 bales. Spot advanced $\frac{1}{16}$ ¢. Coffee quiet, aside from speculation. In dry goods, advance orders for the spring season give good promise. Refined sugars declined $\frac{3}{16}$ ¢.

Metal Market.

Copper.—Consumers have placed somewhat more liberal orders for Lake Superior Ingot. In most instances the contracts specified October and November deliveries only, but, in a few cases, the specification as to delivery was for the remainder of the year. The individual purchases were on a comparatively small scale, however, and aggregated not a great deal more than 500,000 lb. Contracts were chiefly at 11½¢. Outside of this movement there have been unimportant sales at 11.10¢ and a shade less by some of the smaller producers, but confirmation is wanting of alleged sales at as low as 11¢. For export account there is nothing but strictly commonplace movement, although the foreign markets have been somewhat stronger of late. Electrolytic Copper does not move as freely as had been previously calculated, and open quotations would indicate a somewhat softer market. At all events, 10¾¢ is now a common quotation, while 10¾¢ undoubtedly comes nearer to the trading basis where lots of any magnitude may be involved. Common casting brands are likewise softer in value, with 10¼¢ apparently the highest point, and 10¼¢ a rate at which business is not wholly out of the question.

Pig Tin.—The returns of shipments from the Straits during the last half of September show a total that more than offsets the light movement during the first half of the month. In short, the aggregate September shipments are shown to have been 2800 tons, or within 700 tons of the heavy August movement, raising the visible supply for Europe and America to 14,741 tons, or 2942 tons in excess of that of the corresponding period last year. American spot stocks on the 1st inst. amounted to about 3500 tons, against 3450 tons on September 1, while the quantity afloat was 2675 tons against 2500 tons, making an increase of 225 tons in the quantity on spot and in transit to this country. European supplies have decreased to the extent of 204 tons, mainly because of diversion of stock to America. In the face of this rather unfavorable exhibit, prices have been forced up in London, with the effect of causing a sympathetic movement here, but the reaction leaves matters in anything but encouraging shape and the market is, at this writing, apparently a pure gamble. Transactions involving probably 350 tons have been made in a speculative way at from 20.15¢ up to 20½¢ for October delivery, and while the speculative manipulation was in progress the most was made of the opportunity to unload upon the out-of-town trade at prices on a level with those established here. More recently values have depreciated under the weight of natural conditions, but the market is, to all appearances, still greatly under the control of the leading manipulators.

Pig Lead.—The weakness displayed by holders at the date of our last review has continued and 4.05¢ is at present a common selling price for round lots. In the interval, some sales have been made at 4¢—at least 200 tons went at that price—and it would appear that a better rate than 4¢ is out of the question at present, except perhaps, for small parcels. Consumption in this quarter is doubtless up to the average for the season, and the only explanation of prevailing weakness is the fact that supplies are excessive.

Spelter.—The market for Western Spelter remains in a depressed condition, the result of excessive output in some quarters and consequent pressure to make sales. Prime stock is openly offered at 4¼¢; with more secrecy there have been offers at 4 47½¢, and, in some instances bids of 4.45¢ for round lots have been solicited. On the decline little or nothing outside of routine business has been done and buyers are extremely indifferent at the present time.

Antimony.—There has been some increase in business in this metal, but individual purchases involved no important quantities. Prices are without radical change, but rather firmer at 10½¢ @ 10¼¢ for Hallet's, 11¢ for LX, 11½¢ for Crown and 11½¢ @ 11¾¢ for Cookson's in round lots.

Tin Plate.—In spot goods the business has been uneven and irregular, yet evidently somewhat in excess of that of the preceding week. Assortments are broken, and for some varieties of Bright Plates and Ternes higher prices have been paid. In forward deliveries there has been a little more doing, but the movement is as yet spasmodic and without much weight in regulating values. We quote as follows: Coke Tins—Penlan grade, IC, 14 x 20, $5.20; J. B. grade, do., $5.37½; Bessemer do., $5 25 for full weight; $5.15 for 100 lb, $5.05 for 95 lb, $4.80 for 90 lb Siemens Steel scarce. Stamping Plates—Bessemer Steel, Coke finish, IC basis, $5.60 @ $5.65; Siemens Steel, IC basis, $5.75; IX basis, $6.80 @ $6.85. IC Charcoals—Melyn grade, ¼ X assortment, $6 40; Crosses, $8; Allaway grade, ¼ X assortment, $5.70; Crosses, $7.20; Grange grade, ¼ X assortment, $5 80; Crosses, $7 25. Charcoal Ternes—Worcester, 14 x 20, $5.70; do., 20 x 28, $11.40; M. F., 14 x 20, $7.90; do., 20 x 28, $16; Dean, 14 x 20, $5.45; do., 20 x 28, $10.80; D. R. D. grade, 14 x 20, $5.35; do., 20 x 28, $10.65; Alyn, 14 x 20, $5.40; do., 20 x 28, $10.70; Dyffryn, 14 x 20, $5.65; do., 20 x 28, $11.10. Wasters—S. T. P. grade, 14 x 20, $5.10; do., 20 x 28, $10; Abercarne grade, 14 x 20, $5; do., 20 x 28, $9.80.

The Fulton Tool and Mfg. Company of Canal Fulton, Ohio, manufacturers of miners' and masons' tools, have recently purchased the patents and rights of the Wilson Safety Brake and Sprag Company of Pittsburgh, and are now manufacturing patent brakes and sprags for coal cars, also all kinds of pit cars, car wheels, &c. They report business in this department very good, with bright prospects for the future. This department of their trade is entirely separate and distinct from their tool works, which were established at Canal Fulton some ten years ago, and which are in constant operation, turning out a large amount of product. Shipments of their miners' and masons' tools are being made to all the mining States and Territories of the United States, and are said to be giving entire satisfaction wherever used. The officers of the Fulton Tool and Mfg. Company are A. L. Klaus, president, and J. B. Bissonnette, manager.

British Iron and Metal Markets.

[*Special Cable Dispatch to The Iron Age.*]

LONDON, WEDNESDAY, October 5, 1892.

In prices of Pig Iron warrants there has been more or less irregularity. Scotch advanced to 42/1 and Hematite to 48/9, while Cleveland sold off to 39/6. The movement in Scotch is attributed chiefly to operations by members of the "ring," who take hold more confidently in view of the better statistical position. Outsiders are holding aloof, and seem to gain no inspiration from the greater firmness of prices, the decrease in stocks in public stores or the reported scarcity of Iron in makers' hands. The decline in Cleveland is due to more plentiful supplies at furnaces and lack of interest in warrants. The stock of Cleveland Iron in public stores is still 10,000 tons. The stock of Scotch has decreased 5000 tons during the week, or to 373,000 tons. The returns of production in the Cleveland district during September show a total of 216,000 tons, against 213,000 tons in the corresponding month last year.

The Elbwvale Company has received an order for 40,000 tons of Steel Rails and Fish Plates from the Transvaal.

Pig Tin prices advanced steadily until within the past few days, and reached £93. 12/6, a rise of £1. 10/, under the influence of freer demand and reserved offering. Local stocks remain in strong hands, but the announcement that September shipments from the Straits aggregated 2800 tons had rather unfavorable effect, as did also the slight change in visible supply.

Copper advanced 15/ @ 20/ on improved demand for speculative account and better purchases for consumption, together with good demand from England and the Continent. Subsequent realization brought about a reaction, however, and the market has latterly been easier. European visible supply has decreased 1236 tons during the past month. Sales of furnace material latterly include 200 tons Colombian Matte at 9/; 250 tons ditto at 9/12d, and 100 tons Montana Matte on private terms. Chili charters during last half of September were 650 tons.

Tin-Plate business has been dull and at rather irregular prices. The only improvement in demand was from San Francisco. In Swansea there have been sales of low-grade Charcoals at 12/6, moderate transactions in Ternes at 21/9 for doubles, and some 14 x 20 Bessemer Cokes at 11/8 and Siemens do. at 12/, f.o.b. Wales. Stocks in Swansea are now about 177,000 boxes, against 108,000 boxes at the corresponding period last year. The Upper Forest have suspended operations, and the Abertillery terminates contracts.

Scotch Pig Iron.—There has been rather more active demand and the market is stronger, with little change from former prices, except on Summerlee, which is held 1/6 higher.

No. 1 Coltness,	f.o.b. Glasgow		55 6
No. 1 Summerlee,	"	"	54/6
No. 1 Gartsherrie,	"	"	52/
No. 1 Langloan,	"	"	53 6
No. 1 Carnbroe,	"	"	44 6
No. 1 Shotts	"	at Leith	52/6
No. 1 Glengarnock,	"	Ardrossan	50/
No. 1 Dalmellington,	"	"	49/
No. 1 Eglinton,	"	"	47/

Steamer freights, Glasgow to New York, 1/; Liverpool to New York, 7/6.

Cleveland Pig.—The business in makers' brands has been moderate, but prices are held at 39/9, f.o.b. shipping port, for No. 3 Middlesborough.

Bessemer Pig.—Little change in the demand, but prices remain very steady at 50/ for West Coast brands, Nos. 1, 2 and 3, f.o.b. shipping port.

Ferromanganese.—Business continues moderate and former prices are asked. English 80 % quoted at £11. 10/, f.o.b. shipping port.

Steel Rails.—More business has been done, but prices are without change. Heavy sections quoted at £4. 2/6, f.o.b. shipping port.

Steel Billets.—The market remains very quiet and is without change. Bessemer, 2½ x 2½ inches, quoted at £4. 5/, f.o.b. shipping point.

Steel Blooms.—The market remains very quiet and unchanged. Makers quote £4 for 7 x 7, f.o.b. shipping point.

Steel Slabs.—Small sales only, and those at former prices. Bessemer quoted at £4. 5/, f.o.b. at shipping point.

Old Iron Rails.—Market quiet, and no change in sellers' prices. Tees quoted at £2. 15/ and Double Heads at £2. 16/3 @ £2. 18/9, f.o.b.

Scrap Iron.—A moderate business passing, chiefly at old prices. Heavy Wrought Iron quoted at £2. 5/ @ £2. 7/6, f.o.b.

Crop Ends.—Very quiet market, and no change in sellers' prices. Bessemer quoted at £2. 10/@ £2.12/6, f.o.b.

Manufactured Iron.—Common Bars and Black Sheets have been sold at better prices, and general demand shows improvement. We quote, f.o.b. Liverpool:

	£	s.	d.		£	s.	d.
Staff. Ordinary Marked Bars	8	5	0	@	.....		
" Common "	6	7	6	@	6	10	0
Staff. Bl'k Sheet, singles....	7	5	0	@	.....		
Welsh Bars (f.o.b. Wales)....	5	7	6	@	5	10	0

Tin Plate. — No change in Liverpool market. Business only fair, and chiefly at old prices. We quote, f.o.b. Liverpool:

IC Charcoal, Alloway grade	13/6 @ 14/
IC Bessemer Steel, Coke finish	12/ @ 12/3
IC Siemens " " "	12/3 @ 12/6
IC Coke, B. V. grade 14 x 20	12/ @ 12/3
Charcoal Terne, Dean grade	11 9 @ 12/

Pig Tin.—The market unsettled at the close and rather weak, with Straits quoted at £93.15/ for spot and £93. 5/ for three months' futures.

Copper.—Prices fairly well maintained at the close, and the demand moderately active. Merchant Bars quoted at £44. 10/ spot, and £45, three months' futures. Best selected, £49.

Lead.—There has been a fair business, and prices steady at £10. 10/ for Soft Spanish.

Spelter.—The market is quite firm, with £18. 15/ quoted for ordinary Silesian.

Limited Partnership.

At Pittsburgh last week a decision was handed down by the Supreme Court in which limited partnership laws were fully set forth. The case was that of H. C. Geahring *vs.* D. W. C. Carroll, and the following opinion was handed down:

"The plaintiff claims $3,642.20 for lumber, &c., furnished the defendant, and the defense was that the debt contracted is not to be paid by any of the defendants as individuals, but it should be paid by the D. W. C. Carroll & Co., Limited, a limited partnership. The plaintiff denied that the defendants had fully complied with the law relating to limited partnerships in that they did not set forth the 'full names of the partners, and that the amount of capital stock subscribed is in many instances subscribed in bulk.' The statement gives the name of D. W. C. Carroll, while his full name is De Witt Christian Carroll, and the lumping of the capital stock consists of 'estimated profits on unfinished Junction R. R. contract $3060,' and other contracts amounting to $8866.

"We think articles of association required by the Limited Association act should fully conform to the law in all its provisions. They are designed to furnish information to all who may be interested, and should, therefore, be self-explanatory and self-sustaining. We think that some of the objections are necessarily fatal to the defense. The schedule of estimated profits or unfinished contracts furnishes little, if any, information as to the so-called property therein mentioned. This is not the kind of schedule contemplated by the act of 1876. The description is too general to enable any one to form a correct estimate of the extent of property. The question is not one of good faith on the defendants or of notice to creditors, but whether in their attempt to form a limited partnership they conformed to the law. If they did not, the attempt was abortive. The inquirer for the true character and value of partnership capital would doubtless be puzzled to comprehend what is meant by the term in the schedule, 'Good will of D. W. C. Carroll, Fort Pitt Boiler Works, $30,000,' but enough has been said to show that the learned judge below committed no error in directing a verdict for the plaintiff."

PERSONAL.

W. H. Lewis and M. B. Holliday, formerly connected with the Laughlin & Junction Steel Company, at Mingo Junction, Ohio, have resigned their positions with that concern and have become connected with the Shenango Valley Steel Company of New Castle, Pa.

E. Windsor Richards, the famous English steel works manager has been elected president of the Iron and Steel Institute. Mr. Richards was formerly general manager of Bolckow, Vaughan & Co., Middlesborough, and is now in charge of the famous Low Moor Iron Works. He has repeatedly been in the United States, where he has a good many warm friends.

Among those who will lecture before the Franklin Institute this winter will be John Birkinbine, George M. Babcock, Eckley B. Coxe, James H. Dodge, T. Comerford Martin, George Faunce, Pedro G. Salom, W. H. Jaques, Joseph W. Richards, Alfred R. Wolff, Thomas C. Clarke, C. Kirchhoff and Nikola Tesla.

Henry V. Poor has just issued a very instructive work, entitled, "The Tariff: Its Bearing upon the Industries and Politics of the United States."

HARDWARE.

Condition of Trade.

SINCE THE OPENING of the month there has been a continuation of the improvement which was noticeable in the closing weeks of September, and the volume of business with jobbers and manufacturers is certainly fully up to the average. There is, however, some inequality in the demand, inasmuch as while some manufacturers are so full of orders as to be unable to make prompt shipments, others are looking eagerly for business, the condition of their works justifying the larger orders that they are receiving. In the matter of prices, there is no change, and the market is characterized by the same features as for some time past, with perhaps a slight tendency to lower quotations in some lines. It will be observed from the special reports given below that the condition of the jobbing trade is very satisfactory, the demand being good and prices at least as well maintained as usual.

Chicago.

(*By Telegraph.*)

October opens up well in the Hardware trade. The Shelf Hardware jobbers report a heavy volume of business in progress, but with no special change in any way. Prices have been remarkably steady for a long time in every line except Nails. In no other line has there been any indication of weaknes., but rather every appearance of firmness, which promises to continue. The Heavy Hardware jobbers are still having the same strong demand which marked their business during September. Monday's mail orders were very heavy in this branch.

St. Louis.

(*By Telegraph.*)

October opens up in good shape, and promises to be even larger than the month of September, which is saying a great deal. Jobbers report an active demand for nearly all lines. Shelf and Heavy Hardware are very active, and there is some sharp trade in Builders' Hardware. Wire Nails and Barb Wire are dull and prices weaker. Carriage Bolts are inclined to go lower. House-Furnishing Goods are active, and Stove Furnishings are freely ordered. Collections are good.

Cleveland.

THE W. BINGHAM COMPANY.—The day of the equinoctial storm seems to have fled with that of the "old fashioned winter." September closes as it began, with beautiful weather and trade that is away above par. It is astonishing, though, what a contrary effect a large and increasing demand has upon prices. Instead of advancing or strengthening them, as has been the former order of things, it seems to have had the opposite effect, and we have nothing to report but an apparent (and in some cases real) weakness on most staple goods. In some Shelf Hardware lines prices have somewhat strengthened, notably upon Screws and Wrought Butts. We cannot particularize as to the demand. It seems to cover the whole line and is quite satisfactory. Collections are fair and money is easy.

St. Paul.

FARWELL, OZMUN, KIRK & CO.—Trade has been moving along in about the usual way for September. The weather could not have been more favorable for the securing of the small grain crops and also for fall plowing, which is of the highest importance to our farmers in order to get the crop seeded early and in favorable condition in the spring.

The wheat crop is not turning out so well, either in quantity or quality, as hoped for, but it will now be carefully handled by the farmers, and in due time will be marketed, and the returns will be large in the aggregate and will be unusually well distributed throughout the whole territory covered by St. Paul jobbers.

The potato crop, which is of large value, has been greatly benefited by the unusual absence of killing frosts, and, with the favorable prices now obtained, it will yield a large amount of money in this section.

The favorable weather has also been a great benefit to our corn crop. It is generally an uncertain crop with us, owing to our short seasons, though it generally yields fair returns in South Dakota and the southern part of Minnesota and Wisconsin. This year the crop has fully ripened and will yield well and bring a good price.

The favorable weather for our agricultural interests has been unfavorable for collections. Comparatively little grain has been marketed, nor can it be while farmers are straining every energy to secure their present crop and to prepare for the coming one; and so collections have probably fared worse here during the month of September than in any other month of the year. This is, however, a source of satisfaction rather than regret to the trade, as it means a long step toward the saving of this crop and the preparation for the next year's crop, so that, while everybody is anxious to see the beginning of satisfactory receipts from his customers, whom he has carried to a large extent during the summer, he knows the day for realization is not far distant, and that it is sure to come.

On prices there is little to be said. Prices in most lines have been unusually well maintained; the only exception of late has been Stove Boards, and possibly one or two other articles. On the whole, we have never known a year in which prices have been more satisfactory than they have been during 1892, and it is especially remarkable as there has not been an advancing market to help stiffen the prices. Jobbers show a determined unwillingness to "cut the life out of the business," and, on the contrary, they seem to try to get fair prices, and while their margin of profit is not quite so large as it should be, still business is in a healthy condition, and the jobber who does not get fairly good prices throughout has himself mainly to blame, and can improve his condition if he will take hold of it in downright earnest and show "backbone."

Portland, Ore.

FOSTER & ROBERTSON.—There is little or nothing to report as regards our present trade or the prospects of any decided change. Orders are coming in regularly, but for small quantities, showing that the trade generally propose to do their business on light stocks and take no chances.

Collections do not as yet improve, as we had thought they would by this time, still it is early yet as compared with former seasons, and the farmers are rather inclined to hold their grain a short time for better prices.

The weather throughout the Northwest has been as favorable as could be wished for harvest, and the crops are now pretty well secured. Prices do no not show any marked change.

We have a new industry in the shape of a rolling mill in our city, that is turning out a superior grade of Iron. N. E. Ayer, brother of W. B. Ayer, who made a great success of the Cordage Works here, is at the head of the enterprise. The mill is already in the field to meet competition either from the East or California, and bids fair to be a success in every respect.

Omaha.

LEE-CLARKE-ANDREESEN HARDWARE COMPANY.—A glance at the conditions prevailing in the jobbing circles of Omaha would hardly reveal any essentially new facts. The fall trade starts in very auspiciously, and jobbers of Hardware, as well as other lines, are enjoying an exceptionally fine business.

The growing corn has so far matured that danger from frosts may be considered past. It is estimated that the yield, although not as large as last season, yet is very satisfactory and considerably above an average.

From reports received from other States it would appear by comparison that this season Nebraska takes the banner for the

quantity and quality of her crops. The best of feeling prevails among thefarming community as well as the retail dealers.

There is no doubt but that a very large volume of business will be transacted between now and the new year, probably more extensive than in any former corresponding period.

Philadelphia.

SUPPLEE HARDWARE COMPANY.—There has been but little change in the situation of trade during the last two weeks. It hasbeen a period of fair activity, although some may have been disappointed in their trade upon some special lines, but there has been the usual seasonable activity when we take the entire line of disbursements; especially has this been the case during the last week, during which time increased activity has shown itself. The floods which were so disastrous in some portions of the South this spring have had more or less effect upon trade in the same sections during the entire season, and trade from there has naturally been below the average. In other sections of the South they have been more or less affected by the low price of cotton, and hence their sales are not up to the usual amount for this season of the year. There are other instances in certain locations where the land boom had disastrous effects in making many customers somewhat short of funds. However, we can see signs of recuperation at an early date. Collections can be reported as fair, quite equal to any former year, and customers buying for their wants conservatively. We think possibly trade was somewhat affected by the unnecessary cholera fright, some persons who were expected to make their semi-annual visit having written they would not come until later in the season. Exception might reasonably be taken to the manner in which many of the daily papers displayed their "head lines," thus giving unnecessary alarm to distant cities. Sensational journalism has been largely responsible for the mistaken opinions entertained throughout the country regarding the cholera, outside of quarantine. The columns of excitable matter which have appeared in many of these daily papers have naturally given a mistaken impression, together with dread and fear, while the facts of the case are that no cholera has existed in this city, and we think it doubtful if real cases existed in New York, outside of quarantine. The half-dozen cases reported in New York upon investigation showed great uncertainty as to their being cholera, and we think it marvelous that both cities should have less dysenteric trouble during September than is usually the case during that month. In this city, of the two cases reported, which naturally, in advance of proper explanation caused alarm by the "flaring headlines" of some papers one case proved to be one of pure indigestion, and the other was a case of a woman who, in one afternoon, had partaken of watermelon, lemonade, ice cream and several glasses of stale beer, and it is a well-known fact that no season ever passes without cases of sickness and death from dysenteric trouble, while this season has been comparatively free from both. Possibly there never was a time when this city was in a more healthy condition. The quarantine restrictions, together with the approach of cold weather, greatly removes whatever danger was feared from incoming immigrants. The selfish motive of inserting entire columns of inflammable reading matter in order to sell papers should be discouraged in all communities.

The only other disturbing element the trade have feared is the fact of it being the Presidential election year. This, so far, has caused neither excitement nor interruption of trade, and from present appearances, politics is not likely to be an important factor to cause any disturbance. From two or three locations in our State we are informed by our salesmen that so little interest is displayed that one would scarcely know it was a Presidential year.

The hypothetical reasoning and theories of the well paid politicians who proclaim their views and who gather together studied inaccuracies and quote disjointed extracts in a political canvass will likely be better understood by the average voter this year than ever before, as this will most likely be a year of study to the intelligent voter. Heretofore, statements have, as a rule, been accepted unquestioned by those of the same political complexion. The results, however, of the last two years are open to all who care to investigate, and investigation is an easy matter by a survey of the map of the last two years. The average politician who makes politics his business is largely without any practical or experienced knowledge of the subject he discusses; hence gives assumed conditions, makes artificial and misleading statements, and in doing so frequently attacks the very life of our prosperity, and when they state that large industrial establishments are calculated to destroy labof and condemn the laborer to "joyless, poverty-stricken homes," where they eke out a miserable existence, they assume conditions of which they evidently know but little.

We cannot do better than to refer them to the conditions of our own city for the fallacy of the statement. As a city, we are naturally interested in the labor question and in the results thereof. The large number of manufacturing industries located here gives employment to many thousand workmen, and this gives us an opportunity to see and judge of the comforts of the workmen and their families, for, with a population of over 1,000,000, with nearly 200,000 homes (which statistics show us is more than that of New York and Chicago combined), with convenience of nearly 400 miles of street railway, making the long distances accessible, we have no such conditions as described.

How great the contrast between this and what Walter Besant describes of certain locations in London. He writes: "The people live in tenement houses, very often one family for every room. In one street, for instance, of 50 houses, there are 130 families." Even from thrifty France, Comte d'Haussonville has an article in a French paper which we give an extract from: "In the United States the married women are not, as a rule, obliged to go out to work, the normal salary of the husband being sufficient to support a family. This is a privilege in that country where labor is dear and the necessities of life *still cheaper*. The married woman is not forced to leave her home at daybreak, with the fire unlighted, and return at night with scarcely strength enough to prepare the family meal. Above all, she does not find herself reduced to the painful necessity of intrusting her infant to mercenary hands, leaving it ill and seeing it again in a dying condition."

Compare the above with our own city, where, as a rule, each family occupies a comfortable home; frequently owning the same, otherwise having it at a nominal rental. A visit to our park of 2800 acres on any Saturday afternoon during the summer half-holidays, or upon our last labor holiday, an intelligent idea could have been formed of the superior advantage of these many thousand pleasure-seekers, happy, contented, well dressed and well-fed; or, if they had been followed to their homes, the convincing proof would have been complete. They would have found homes of neat appearance, and many of the more recently constructed of great architectural beauty. Investigation would have further acquainted them with the fact that the cost of living is less and the average wages higher than has ever been before known in this or any other country.

The average politician is fully aware of the fact that he can best reach the heart of the uneducated by endeavoring to have them think they are imposed upon, and tries to have them believe that if his own political faith were adopted the poor would become rich, and *vice versa*. We, however, think it an unwise policy for either party to appeal to the prejudices rather than the mental reasoning of the middle class. The prospect of temporary expediency or success does not guarantee the experiment. It should be the duty of either party to use their utmost endeavors to create the best results for those who depend upon their daily labor, to make a happy and contented country, and not engender a feeling of dissatisfaction and strife, to which industrial strikes can be largely traced.

Louisville.

W. B. BELKNAP & CO.—The dry, fair weather continues which has been prevalent so long; in consequence, the Ohio River is closed for navigation above Cincinnati, and all the great tonnage of this valley is thrown upon the railroads. This produces unusual activity and is somewhat misleading, unless one takes into account that transportation by boat is out of the question. The earnings of the roads hereabouts show up well; all of their cars and locomotives are in active use.

The manufacturers seem well supplied with orders, so that it is extremely difficult to get an assorted order filled promptly, no matter what the goods are. With all

THE HARDWARE CLUB OF NEW YORK—PROPOSED SITE.

POSTAL TELEGRAPH BUILDING, BROADWAY, CORNER MURRAY STREET.

CENTER OF THE HARDWARE, IRON, METAL AND RELATED TRADES OF NEW YORK.

OFFICE BUILDINGS ARE INDICATED BY SHADED SPACES.

The site proposed for the Hardware Club is Broadway, corner of Murray Street.

of this, we should expect naturally to see much better prices, but so far the course pursued has been extremely conservative and the tone of the market such as to keep operations within legitimate bounds.

The condition of the South is not overgood. The low price of cotton last year prevented the accumulation of heavy bank accounts by the average planter, and in many sections this year the crops are poor. However, it is an easy country to live in, and less is required to support life there than in most other sections, which accounts for its persistent vitality in spite of all disaster, meteorological or political.

Our own State is still under the affliction of an extra session of the Legislature to repair the omissions of itself when in regular session. To adjust ourselves to the new Constitution is a difficult task.

Baltimore.

CARLIN & FULTON.—While there has been a good steady trade throughout the entire month, September has passed without having distinguished itself by any unusual activity in business.

Undoubtedly the fear of cholera prevented many from visiting the large cities, and as the salesmen generally have been at home expecting to see their customers in the market, the absence of these buyers has been disappointing, for while mail orders are frequent, they rarely amount to what would be bought either by personal selection or through the agency of the traveling salesmen.

The great throngs of visitors to the national capital a few days ago have taxed the capacity of the railroads to their utmost, and in order to handle their passenger travel successfully, two of our trunk lines for several days refused to carry freight in either direction, resulting in great inconvenience and trouble to the business community, and probably it will be some time yet before regular schedules are observed and deliveries made with satisfaction.

Though the right of railroad companies to suspend absolutely all freight traffic in favor of passenger travel may be an open question, there is an annoyance which is increasing daily and which, no doubt, every one in the trade experiences, viz: the delay in freight deliveries. Shipments which formerly required but two or three days to reach their destination now require at least a week, and where goods are started from very distant points, there is no saying with any degree of accuracy when they may be expected to arrive. It seems that all general merchandise is sidetracked, while other classes of freight are rushed through.

We are glad to read of a firmer price for cotton, and we hope it may yet reach a figure which will compensate the planter and thereby stimulate trade. To the wheat grower nearer to our doors, there is some compensation for low prices in the fact that his crops are varied and wheat not his only dependence. As to the future state of trade it is hard to predict. Undoubtedly, throughout the whole Southern country the enforced economy in buying during the last two years has depleted stock and resulted in a scarcity of goods, and there would be an extraordinary demand, provided there was a satisfactory basis for credit. An advance of even 1 cent per pound in the price of cotton would produce this result, and it may happen more speedily than we anticipate; but it will never happen from a depreciated or an inflated currency, nor through the visionary schemes of political economists.

New Orleans.

A. BALDWIN & CO., LIMITED—Business is pretty active in this section of the country and people are getting ready to take advantage of the present low prices of Hardware and orders are coming in freely every day. On seasonable goods, such as Stoves, &c., the business shows a decided improvement over last year. Sales of Shelf Hardware show somewhat of an improvement also. Demands for Heavy Hardware are much lighter than usual.

San Francisco.

HUNTINGTON-HOPKINS COMPANY.—Country jobbing trade continues about the same, there being no noticeable increase in volume. Local trade, especially in Builders' Hardware, is good. Collections are about the same; farmers are still holding their wheat on account of the low price ruling. There is a brisk demand for Guns and Ammunition, as our close season for game ends with this month. Shells are now loaded so perfectly by machinery that Powder and Shot as articles of trade are becoming things of the past in a great measure, and are going to join Powder Flasks and Shot Pouches, which have long ceased to be of much value.

Nails are now being quoted by the local mills as follows: Iron Cut, $2.10 base; Steel Wire, $2.20 base, net cash. On Septembr 19 the local Cordage Factory changed their card by separating the Duplex and Sisal, increasing the latter 1 cent per pound, other kinds remaining the same. Dealers in Wrought-Iron Pipe had another meeting a few days since, when they were joined by some who had remained out; existing prices were confirmed, so they are now firmer than before. Up to the present time we have had no rain this season. Indications now point that way, however, and we may soon expect a change in the weather; the first rains always do us good, and we look forward to them with pleasure.

Notes on Prices.

Cut Nails.—Some disappointment is expressed by the Eastern mills in regard to the demand for Cut Nails, the volume of business being only moderate. As a result of this condition some of the manufacturers in their desire to secure business are making concessions from regular quotations, and the market is therefore characterized by an undertone of weakness, notwithstanding the fact that there has been no change in the official quotations, which are, in fact, adhered to in many cases. A somewhat better condition of things prevails in the West, where the tendency at present seems to be toward slightly higher prices. Quotations in the East for carload lots at mill are on the basis of $1.65 for Steel Nails, on an average ranging from 25 to 35 cents, with equalization of freight. Iron Nails are 3 cents per keg less, and on 1000-keg lots of either Iron or Steel an abatement of 5 cents per keg is made. New York prices for carload lots of Cut Nails on dock are as follows:

	Iron.	Steel.
25 to 30 cent average extra.....	$1.77	$1.80
31 to 39 " " "	1.72	1.75
40 to 49 " " "	1.67	1.70
50 cents and up " "	1.62	1.65

Lots of 1000 kegs, 5 cents a keg less than above prices.

Steel Nails from store in New York are held at $1.85, and Iron Nails at $1.82.

Chicago, By Telegraph.—Prices are gradually working up to a higher level. Manufacturers' quotations now range from $1.62½ to $1.67 on a 30-cent average, and little is heard of cutting by outside mills, which was a conspicuous feature of this market for the past two or three weeks. Orders are coming in very rapidly, and inquiries indicate a continuance of the heavy trade. Jobbers still quote small lots at $1.70 to $1.75 from stock.

Wire Nails.—Since our last report the demand for Wire Nails has been good, though not exceptionally heavy, but there has been a further yielding in price, and $1.50 at mill is a quotation at which the mills are not only willing to accept orders, but which is in some cases quoted for round lots. It is also understood that concessions beyond this figure have been made on large lots.

Chicago, by Telegraph.—A brisk competition among manufacturers is in progress for Chicago trade. Prices have weakened to some extent under the pressure, and quotations now range from $1.60 to $1.65 for factory lots, according to the position of the seller and the quantity purchased. Manufacturers report that outside of Chicago business is in a good condition, and better prices are being realized. Jobbers continue to quote $1.75 to $1.80 for small lots from stock.

Barb Wire.—The Barb Wire market continues sluggish, with little change in its general features. The volume of business is limited and prices are more or less evenly maintained on a basis of $2.60 to $2.65 for round lots at mill. Quotations from store in New York are $3.10 for small lots, with an abatement of 10 cents on carloads.

Chicago, by Telegraph.—This season has been a profound disappointment to the manufacturers. They have been hoping up to the present time that the fall trade would make its appearance, but it seems to be as far from realization as ever. Regular prices continue to be $2.15 for Painted and $2.60 for Galvanized in carload lots, but these prices are being shaded, it is reported, by Pittsburgh manufacturers at the river points. Jobbers continue to quote $2.80 for Galvanized in small lots.

Hatchets, Hammers, &c.—Fayette R. Plumb, Philadelphia, has issued under date October 1 a revised discount sheet covering the extensive line of goods represented in his 1892 catalogue and supplement No. 1. This supplement is now in the printers' hands and will be ready for distribution in a few days. Mr. Plumb's revised prices are as follows: terms 60 days or 2 per cent. discount for cash in 10 days, f.o.b., cars, Philadelphia, no charge for packages.

	Per cent.
Hammers, "Artisans' Choice," Octagon pattern Adze-Eye Nail	40&5
Hammers, "Artisans' Choice," A. E. B. F. & A. E. Nail	40&5
Hammers, Adze-Eye and Adze-Eye Bell-Face Nail	40&7½
Hammers, Plain-Eye Nail	40&7½
" Vulcan Tool Company's Adze-Eye Nail	50&10
Hammers, Vulcan Tool Company's Plain-Eye Nail	50&10
Hammers, Quaker City Mfg. Company's Adze-Eye Nail	50
Hammers, Brad	50
" Carpet	50
" All Adze-Eye Farriers'	50&10
" Plain-Eye and English Farriers'	50&10
Hammers, "Tinners' Favorite" Riveting and Paneing	50&10
Hammers, "Tinners'" Riveting and Paneing	50&10
Hammers, Adze-Eye Riveting	50&10
" Plain-Eye Riveting	50&10
" Engineers'	50&10
" Blacksmiths' Hand	50&10
" Coopers'	50&10
" Chipping	50&10
" Prospecting	40&10
" Carriage Ironers'	40&10
" Machinists', round pattern	50&10
" "Mechanics' Pride," octagon pattern ball pein	50
Hammers, Machinists', octagon pattern	50&10
" Horseshoe Turning	50
" Shoe	40&10
" Bill Posters'	40&5
" Brick	40&12½
" Cornice Makers'	40&12½
" Belgium and Cobble Pavers'	40&12½
Picks, Prospecting	40
Hatchets, S. C. S., Shingling, Half, Claw and Lath	40&7½
Hatchets, S. C. S., Broad	40&2½
" " A. E. B. P. Shingling and Half	40&5
Hatchets, S. C. S., Boston, pattern Lathing	40&5
Hatchets, S. C. S., Underhill pattern, Lathing	40&5
Hatchets, S. C. S., A. E. B. P. Lathing	40&5
" " Chicago pattern, Lathing	40&5
Hatchets, S. C. S., Philadelphia pattern, Lathing	40&5
Hatchets, S. C. S., Fireman's	40&5
" " Ice	40&5
" Shingling and Half	40&7½
" Claw and Lathing	40&7½
" Barrel and Broad	40&2½
" Vulcan Tool Company's Shingling and Half	50&5
Hatchets, Vulcan Tool Company's Claw and Lath	50&5
Hatchets, Vulcan Tool Company's Broad	50
" Warehouse	40&5
Axes, Boys' and Hunters'	40&7½
" Broad, Ohio pattern	40&7½

	Per cent.
Axes, Broad, Pennsylvania or Pittsburgh pattern	40&7½
Axes, Broad, Western pattern	40&7½
" " New Orleans pattern	40&7½
" " Canada pattern	40&7½
" " Ship "	40&7½
Adzes, Carpenters'	40&7½
" Railroad	40&7½
" Ship Carpenters'	40&7½
Hooks, Bush, Axe Handle, Auckland and Two Ring	40&5
Cleavers and Choppers, Wrapped Iron Handles	40
Cleavers and Choppers	40
Axes, Butchers', German pattern	40
Cleavers, " "	40
Beef Splitters	40
Hammers, Drilling or Striking, Nevada pattern, extra tool steel	75&10
Hammers, Drilling or Striking, Oregon pattern, extra tool steel	75&10
Hammers, Drilling or Striking	75&10
" Hand Drilling and Stonecutters'	75
Hammers, Napping	75
" Macadamizing	75
Sledges, Stone	70&10
Hammers, Stone Breaking	75
Axes, Stone	70&10
Hammers, Spalling or Stone	75
" " " Vulcan Tool Company's	75&10
Reels, Masons'	75
Hammers, Masons' and Sorting	75
" Bush, with Leaves	60
" "	60
" Vulcan Tool Company's Drilling or Striking	75&10
Sledges, Vulcan Tool Company's Stone	75&10
" Blacksmiths'	75&10
" Horseshoe Turning and Coal	75&10
" Vulcan Tool Company's Blacksmiths'	75&10
Hammers, Blacksmiths' Hand	75
" Boiler Makers'	60&10
Anvils, Plow	70
Swedges, Fullers, Flatters and Hardies	70
Set Hammers, Creasers and Punches	70
Heading Tools and Pritchels	70
Pincers	60
Buttress, Nippers and Extra Heavy Pincers	50
Button Sets	70
Tongs, Blacksmiths' and Horseshoers'	50
Drivers, Coopers'	50
Chisels, Blacksmiths' Cold and Hot	70
Rock Drill Sharpening Tools	70
Chisels, Hand Chipping and Cape	50
Pitching Tools and Points	50
Chisels, Stonecutters' and Brick	50
Wedges, Falling	80
" Oregon pattern	75
" " " Vulcan Tool Company's	75
Wedges, Truckee pattern	60&20
" Vulcan Tool Company's Truckee pattern	70
Wedges, Quaker City Mfg. Company's	70
" Stone	70
" Coal	75
Plugs and Feathers	50&10
Wedges, Saw	70&10
Mauls, Wood Choppers', Oregon pattern	75
" " Vulcan Tool Co.'s, Oregon pattern	75&10&5
Mauls Wood Choppers', Washington pattern	75&10
Mauls, Wood Choppers' Straight Cut	75&10
" Ship	75&10
" Railroad	75&10
" Vulcan Tool Co.'s Railroad	75&10
Punches, Railroad Track	70
Chisels, Railroad Track	70
Rail Tongs, Forks and Wrenches	50
Crowbars, Pinch and Wedge Point	60&10
Bars, Railroad Tamping and Lining	60&5
" " Claw	60&10
Picks, Boiler and Mill	40
" Quarry	75
" Stone	75
" Railroad	60&7½
" " V Tamping	60&7½
" " T "	60&7½
" Ore	60&7½
" Contractors'	60
" Surface	60&7½
" Drifting	60&7½
" Pole	60&7½
" Common-Eye, Coal	60
" Adze-Eye, Coal	60
Mattocks, Long and Short Cutter	60&5
" " " " " Light pattern	60&5
Mattocks, Pick	60&5
" Asphalt	60&5
Hoes, Grub	60&5
" " Southern pattern	60&5
Froes, Coopers'	50
Picks, Railroad, Solid Cast Steel	60&7½
" " V Tamping, Solid Cast Steel	60&7½
Picks, Railroad, T Tamping, Solid Cast Steel	60&7½
Picks, Surface, Solid Cast Steel	60&7½
" Drifting " "	60&7½
" Pole " "	60&7½
" Common Eye, Coal, Solid Cast Steel	60
" Adze " " " "	60
Eyes, Pick, Railroad and Tamping	60&7½
" " Surface and Drifting	60&7½
Stakes, Cornice Makers'	50
Hammers, Assorted Nail, Farriers' and Riveting (Supplement No. 1)	40&7½
Hatchets, Nickel-Plated Octagon Pole. (Supplement No. 1)	40&7½
Hatchets, Nickel-Plated Octagon Pole (Supplement No. 1)	40&7½
Hatchets, Silver Bronzed Octagon Pole (Supplement No. 1)	40&7½
Hatchets, Silver Bronzed Octagon Pole (Supplement No. 1)	40&7½

Acme Nut Cracker.—The following are revised quotations on the Acme Nut Cracker, manufactured by the Acme Shear Company, Bridgeport, Conn.: The list price is $30 per gross, which is subject to a discount of 10 per cent. on the nickel-plated goods, and 50 per cent. on the japanned.

Glass.—The past week has seen a greater divergence in prices between American and Imported Glass, as on the 28th of September the Western Window Glass Manufacturers, at a meeting in Chicago, agreed upon a reduction from former quotations, while an advance on French Glass took effect October 1. The new prices on American Glass are as follows: Window Glass, 1000-box lots or more, 80 and 20 per cent. discount; carloads, 80, 10 and 5 per cent. discount; less than carloads, 80 and 10 per cent. discount. While this is apparently a reduction from former prices, it is claimed that during the past two or three weeks Glass has been sold at these discounts, if not at a lower price, and that the new prices are really in the nature of an advance on existing quotations. As an indication of the low prices which have lately ruled for American Glass, a quotation from Central New York made during the last week in September is as follows: 100 box lots, 80 and 20 per cent. discount; less quantities, 80 and 15 per cent. discount, freight allowed. Manufacturers, as a rule, do not consider the outlook cheerful. It seems to be generally believed by producers that there will be a satisfactory demand for Glass this fall, and they trust that before the end of the fire better prices will rule. Some manufacturers go so far as to declare that present prices are far below the cost of production, and that pressed by the wage demands of the men on one side and the market on the other the manufacturer has but little hope. This, however, may represent isolated cases, as a number of the factories during the summer's shut down have improved their plants by putting in gas producers for the tanks, to be used in case the natural gas supply fail, arranging for the use of crude petroleum for blowing and flattening, erecting water works of their own for fire protection and other improvements for the reduction of cost in manufacturing Glass. With these and other modern improvements it would be difficult to state the present cost of manufacturing Glass, under the most favorable conditions. Importers of French Glass have announced a price of 80 per cent. discount, on any quantity, taking effect October 1. Present quotations are as follows: American Window Glass, 1000-box lots or more, 80 and 20 per cent. discount; carloads, 80, 10 and 5 per cent. discount; less than carloads, 80 and 10 per cent. discount. French Window Glass, 80 per cent. discount. Amercan Plate is held at a discount of 50, 10 and 5 per cent., and imported Plate at a discount of 60 per cent.

Brooklyn Lock Company, Brooklyn, N. Y., have completed arrangements to place upon the market a Vending machine, of which John Schade is the patentee. These will be manufactured with from one to ten or more columns, and are designed to be used for the sale of candies, gums, chocolate or any other article of merchandise usually sold through such mediums.

— THE —

Hardware Club

— OF —

NEW YORK.

THE ORGANIZATION of a Hardware Club in New York is a matter in which not only the trade of that city and vicinity are interested, but also to a considerable extent the merchants and manufacturers of the entire country.

Our readers will therefore be gratified to learn that steps are being taken for the carrying out of the purposes of the club and the securing of requisite rooms for its accommodation on a scale which will be creditable to the influential interests represented. In view of the importance of this movement, which has been entered upon after careful deliberation by the club, we devote considerable space in this issue to the explanation and illustration of the project, giving—

REPORT OF THE MEETING OF THE CLUB;
MAP OF THE CENTER OF THE HARDWARE AND RELATED TRADES;
VIEW OF THE POSTAL TELEGRAPH BUILDING;
FLOOR PLAN OF PROPOSED CLUB ROOMS;
THE OFFICIAL CIRCULAR; AND
THE CONSTITUTION OF THE CLUB.

When this project is carried to a successful consummation the equipment of the club will compare well with that of any similar organization in the city or country, and will be a convenient and creditable headquarters for the important interests with which its members are identified.

Meeting of the Club.

The special meeting of the Hardware Club which was announced in our last issue was held on Tuesday, October 4, in the parlors of the Cosmopolitan Hotel, at which time important action was taken looking to the carrying out of the purposes for which the club was organized. The president, William H. Williams, on behalf of the Board of Governors, laid before the club the project to which we have already alluded of having the headquarters of the club in the Postal Telegraph Building, now in course of erection on Broadway, corner of Murray street, referring briefly to the advantages possessed by this location and the excellent accommodations which would be furnished for club purposes. It was also explained that the plan would involve an extension of the original scope of the club and the bringing in as members of gentlemen connected with other lines of business, while the management of the club would remain in the hands of Hardwaremen. For the carrying out of this plan it would be necessary to increase the initiation fee and annual dues beyond the figures which were at first contemplated. This change, together with other unimportant ones, was embodied in a revised constitution which was reported to the club, and which after careful consideration on the part of the members was unanimously adopted. At the same time the most hearty approval of the project for club rooms in the Postal Telegraph Building was expressed, and the Board of Governors were authorized to carry out the project provided the requisite number of members could be secured. Several of the gentlemen referred to the favor with which the project has been regarded by influential merchants, bankers and others doing business in the vicinity, many of whom have signified their desire to connect themselves with such a club, in view of its admirable location and the many advantages which will be enjoyed by members, as it is the intention on the part of those who have the matter in charge that this club shall be a first-class one in every respect. It is not anticipated that there will be any difficulty in obtaining all the members necessary to carry it on successfully, and in order to keep it within bounds a limit to the membership was judiciously decided upon, as referred to below in the official circular.

Offical Circular.

It was decided by the meeting to issue through the Board of Governors, for the information of those who are likely to be interested in the club, a circular explaining its scope and object. This circular will contain, it is intended, illustrations of the building, floor arrangement, &c., and give further information in regard to the scope of the project, privileges of members, terms of membership, &c. It will be prefaced by the names of the officers and the Board of Governors, as follows:

Hardware Club of New York.

Incorporated June 11, 1892.

Officers.

WILLIAM H. WILLIAMS...President.
ROBERT H. SWAYZE.....Vice-President.
THOMAS F. KEATING.....Treasurer.
JOHN L. VARICK.....Secretary.

Board of Governors.

BRACE HAYDEN,
Dunham, Carrigan & Hayden Co.
MORTIMER C. OGDEN,
Eagle Lock Co.
PETER MCCARTEE,
Stanley Works.
WILLIAM H. WILLIAMS,
Van Wagoner & Williams Co.
ALFRED D. CLINCH,
Underhill, Clinch & Co.
WEBSTER R. WALKLEY,
Peck, Stow & Wilcox Co.
EDWARD C. VAN GLAHN,
White, Van Glahn & Co.
THOMAS F. KEATING,
Yale & Towne Mfg. Co.
CHARLES DALY,
Schoverling, Daly & Gales.
JOHN L. VARICK,
Union Nut Co.
ARTHUR G. SHERMAN,
Sherman & Lyon.
ROBERT H. SWAYZE,
Plume & Atwood Mfg. Co.
EUGENE BISSELL,
Haydock & Bissell.
RICHARD R. WILLIAMS,
The Iron Age.
JAMES H. KENNEDY,
Hardware.

Committee on Admissions.

PETER MCCARTEE, CHARLES DALY,
ROBERT H. SWAYZE, ED. C. VAN GLAHN,
ALFRED D. CLINCH.

The following is the substance of the official circular in which formal announcement is made in regard to the project:

HARDWARE CLUB OF NEW YORK.

A called meeting of the Hardware and related trades was held March 19, 1892, to consider the advisability of organizing a Hardware club. The project was approved by those present, a club was organized, and at a subsequent meeting a Board of Directors was elected.

The club has since been incorporated under the laws of the State of New York. According to its certificate of incorporation, "The particular business and object of such club are to provide a suitable meeting and lunch room for the use of and to promote acquaintance among the members thereof, and to further the interests of the Hardware and related trades."

The Postal Telegraph Company have made a proposition to lease to the club the entire upper floor of the new building now being erected on the corner of Broadway and Murray street, a location hardly equaled in New York for beauty and convenience, being situated within one block of the east and west side elevated railroads, Brooklyn Bridge, Post Office, City Hall and Court House, and near the center of the Hardware trade. The building will have no superior in the city, and the builders expect to have it ready for its tenants by May 1, 1893. The upper floor will be divided into dining rooms, café, reading room and library, meeting rooms, kitchen, lavatory, &c. A barber's room and bath rooms will be included, if desirable.

Rooms suitable for the meetings of various associations of Hardware manufacturers will be provided.

To resident members it will afford a place for dining and entertaining customers and friends and meeting the members of the trade.

For non-resident members it will be a place where they can be registered when about to visit the city, where their mail

can be sent, where they will meet the trade, and where they can dine.

Every appointment of the rooms and the restaurant will be of the best. It is not intended, however, that the restaurant charges will be high, but on the contrary, as low as good service will permit.

Although the primary and principal object of the club is for the interests of the Hardware trade, membership will not be restricted to that trade, but may comprise merchants in other branches of business, insurance men, bankers, lawyers, &c.

The admission fee has been placed at $50 for both resident and non-resident members, and the annual dues at $50 for resident members and $25 for non-resident members. The admission fees are to be payable on election to membership, but the annual dues are not to commence until the opening of the rooms.

It will be necessary to limit the membership, and the Board of Governors has placed the limit at 500 for resident members, and 300 for non resident members. Applications will be acted on in the order received

It is desirable that applications for membership be made as early as possible. Blanks for that purpose will be found herewith, which when filled in should be mailed to the secretary, J. L. Varick, 107 Chambers street, New York.

If a sufficient membership is assured by November 10, a lease of the room described above will be effected and the rooms will be made ready for occupancy by the club as soon as the building is completed. WILLIAM H. WILLIAMS, President.
J. L. VARICK, Secretary.

Proposed Club Rooms.

From the accompanying plan an idea is given of the proposed arrangement of the club rooms. These have been drawn to afford a basis for discussion, and while they may be modified as desired, the general features of the arrangement seem to meet the requirements of the club. Emphasis is given to the location of the kitchen, which permits of the offensive odors of cooking being drawn out of doors instead of being allowed to remain in the apartments. The dining room is spacious and admirably located, the southern exposure receiving the cool breezes from the ocean in the summer and the sun's warmth in winter. The two committee rooms it is contemplated to reserve for special trade meetings, instead of obliging members to go miles from their business to uptown hotels. There will be six elevators, two of which will be express, not stopping until the eleventh floor is reached. A bath room and barber shop is in contemplation, either on this or the floor below.

The location should make it especially desirable for non-resident members, or resident members returning from an out-of-town trip. Instead of going to a hotel, members could go from boat or train to the club and enjoy a meal among congenial and attractive surroundings, where the soil of travel can be removed, the trade and daily papers scanned, trade catalogues, directories, guides, &c., referred to, valise or wraps left until needed, and where mail or telegrams could be found that had been previously ordered sent there. It is proposed to furnish the rooms in keeping with the surroundings and the dignity of the interests represented. The dining feature will be an important one, and the cuisine, which will be in charge of a competent steward, is expected to afford the best the market can supply at but a slight advance on actual cost.

The Postal Telegraph Building.

The top or fourteenth story of the new Postal Telegraph Building, now in course of erection at the corner of Broadway and Murray street, of which we give an illustration on another page, has been selected as the prospective home of the New York Hardware Club. It would have been difficult to find a more eligible site, while the character and construction of the building insures the most modern and approved appointments. The location is a very central and accessible one, being but a short distance from the east and west side elevated roads, the New York and Brooklyn Bridge, the principal ferries and steamboat landings, while being convenient to the Broadway and many other lines of surface cars. The building faces the City Hall park, with a frontage of about 75 feet on Broadway and 150 feet on Murray street. Towering as the building will above other buildings in the neighborhood, adequate ventilation and light are insured. On both the Broadway and Murray street fronts will be commodious balconies, affording a fine view of the city and harbor and the surrounding country.

Constitution of the Hardware Club of New York.

ARTICLE I.

The name of this association is the Hardware Club of New York.

ARTICLE II.—OFFICERS.

Section 1. The officers of the club shall be a president, vice-president, treasurer and secretary.

Sec. 2. The affairs of the club shall be managed by its Board of Trustees, consisting of 15 members, and to be known as the Board of Governors.

Sec. 3. The president shall preside at the meetings of the club and Board of Governors, and shall perform such other duties as the Board of Governors may assign him.

Sec. 4. The vice-president shall perform the duties of the president in the case of his absence or disability.

Sec. 5. The treasurer shall collect all moneys payable to the club, and shall keep its financial accounts, and report thereon at the regular meetings of the Board of Governors and the annual meeting of the club. He shall pay all bills after certification of their correctness by the president and secretary, and his accounts shall be audited semi-annually.

Sec. 6. The secretary shall give notice of all meetings of the club and of the Board of Governors, and shall keep minutes of such meetings. He shall conduct the correspondence and keep the records of the club. He shall notify persons elected to membership of their election, and shall furnish their names to the treasurer, and shall be the keeper of the seal of the club.

ARTICLE III.—BOARD OF GOVERNORS.

Section 1. The Board of Governors shall have general charge of the affairs, funds and property of the club. They shall have full power, and it shall be their duty to carry out the purposes of the club according to its Certificate of Incorporation, constitution and by-laws.

Sec. 2. They shall meet the week following the annual meeting, and shall elect from their own number the president, vice-president, treasurer and secretary, who shall hold office until the next annual meeting and until their successors are elected.

Sec. 3. They shall submit at each annual meeting a general report of the affairs of the club.

Sec. 4. They shall meet once a month. Special meetings may be called by order of the president, or in his absence by the vice-president, and shall be called at the request in writing of three members of the board. Two thirds of the board shall constitute a quorum.

Sec. 5. They may fill any vacancy in the board by election by ballot of a member to hold office until the next annual election.

Sec. 6. They shall prepare and enforce rules regulating the use of the club rooms, and shall have power to remit penalties for offenses against the rules and for unintentional violations of the constitution.

Sec. 7. They shall have power to make and amend rules for their own government, and shall have full power to decide all questions not governed or determined by the constitution or by-laws.

Sec. 8. They shall appoint from their own number all standing committees for the current official year, and shall have power to make rules for the government of such committees.

ARTICLE IV.—MEETINGS AND ELECTIONS.

Section 1. There shall be an annual meeting of the club on the third Saturday of March of each year. At the annual meeting to be held in March, 1893, 15 members shall be elected, who shall constitute the Board of Governors and who shall hold office as provided in this constitution. Within one week after such election the Board of Governors shall meet and divide themselves into classes of five, so that the terms of the first class shall expire in one year, those of the second class in two years and those of the third class in three years, and thereafter elections shall be for three years, except for vacancies in the other classes, which shall also be filled at such annual meeting.

All elections shall be by ballot, and a majority of the votes cast shall be necessary to elect.

Sec. 2. A committee to nominate governors for election at the annual meeting shall be chosen by ballot by the Board of Governors at a regular meeting a month preceding the annual meeting. Such committee shall consist of five members, not governors, and they shall nominate in writing members who have consented to serve as governors to be elected at the annual meeting, and at least ten days before the annual meeting shall place the names of such nominees on the bulletin board, and shall report the nominations in writing to the Board of Governors. But any other five members, not governors, may nominate members who have consented to serve as governors to be elected at the annual meeting, and may put such nominations over their signatures on the bulletin board of the club at least five days before the date of the meeting.

Sec. 3. A meeting of the club shall be called at any time by the Board of Governors upon the request in writing of ten members.

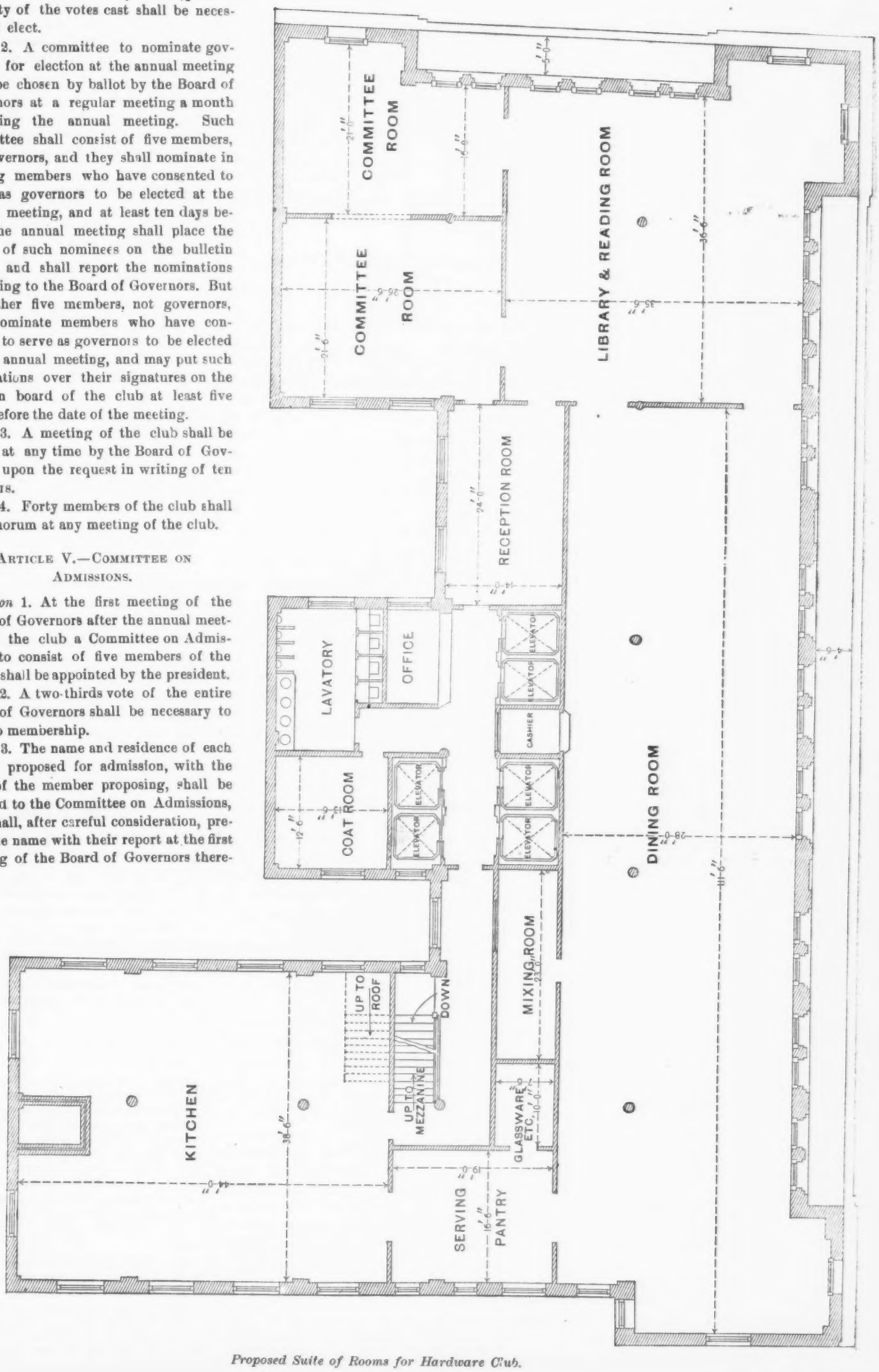
Sec. 4. Forty members of the club shall be a quorum at any meeting of the club.

Article V.—Committee on Admissions.

Section 1. At the first meeting of the Board of Governors after the annual meeting of the club a Committee on Admissions, to consist of five members of the board, shall be appointed by the president.

Sec. 2. A two-thirds vote of the entire Board of Governors shall be necessary to elect to membership.

Sec. 3. The name and residence of each person proposed for admission, with the name of the member proposing, shall be referred to the Committee on Admissions, who shall, after careful consideration, present the name with their report at the first meeting of the Board of Governors thereafter.



Proposed Suite of Rooms for Hardware Club.

ARTICLE VI.—MEMBERS.

Section 1. The club shall consist of resident and non-resident members.

Sec. 2. Persons not residing or having a place of business within 20 miles of the City Hall in the city of New York may be elected as non-resident members; and any member whose residence and place of business shall be at least 20 miles from said City Hall, on written notice thereof to the treasurer, may become a non-resident member.

Sec. 3. No non-resident member shall be entitled to vote at any meeting of the club or to hold office.

Sec. 4. No person shall become a member until he shall have paid the prescribed admission fee, and shall have subscribed to the constitution.

Sec. 5. No member shall be eligible to office unless he shall be in the Hardware or related trades.

Sec. 6. Resignations of membership shall be made to the secretary in writing. Such resignation shall not be accepted until all the indebtedness to the club of the member resigning shall have been discharged.

ARTICLE VII.—FEES AND DUES.

Section 1. The admission fee shall be $50 for resident and non-resident members.

Sec. 2. The annual dues of resident members shall be $50, and of non-resident members $25, payable semi-annually, in advance, on the first days of March and September.

ARTICLE VIII.—DISSOLUTION OF MEMBERSHIP.

Section 1. Any member may be expelled for cause by a two-thirds vote of all the members of the Board of Governors; one month's previous notice in writing having been given to the member, with a copy of the charges preferred against him.

Sec. 2. On the resignation, death or expulsion from the club of any member his membership and all rights acquired under it shall thereupon and thereby cease and be forever at an end; and any interest in the property of the club he may have had shall revert to and be vested in the club.

Sec. 3. When the dues or other indebtedness to the club of any member shall remain unpaid for two months, and notice thereof has been delivered to him or mailed to his address, his name shall be placed on the bulletin board of the club as being in arrears. If such arrears remain unpaid at the expiration of 30 days thereafter, the name of the delinquent member may, by a vote of the Board of Governors, be stricken from the roll of members of the club.

Sec. 4. No member whose dues are two months in arrears shall be entitled to vote at any meeting of the club.

ARTICLE IX.—CONTRACTS.

Section 1. No contract shall be binding upon the club unless it is signed by the president and secretary, or is specially authorized by the Board of Governors.

ARTICLE X.—AMENDMENTS TO CONSTITUTION.

Section 1. The constitution may be amended at any meeting of the club by a vote of two-thirds of the members present. A notice of the proposed amendment shall be furnished to the secretary and posted on the bulletin board of the club at least 20 days before the meeting at which it is proposed to consider the amendment, and the secretary shall cause such notice to be printed and sent to each member at least tendays before such meeting.

Hardware and Metal Trades in New York.

We give herewith a map illustrating the topography of New York City from the Battery to Canal street, the object of which is to indicate the location of the various Hardware and Metal houses of the metropolis, all of which it is contemplated will be interested in the Hardware Club, whose proposed club rooms in the new Postal Telegraph Company's 14-story building, now in course of erection at the corner of Broadway and Murray street, are designated by a star. It will be seen that while it is especially convenient for the majority of the Hardware and Cutlery houses, it is not far distant from any of the leading centers. The black spaces mark the location of stores in which stocks are carried and from which goods are shipped. The alternate black and white lines indicate more or less extensive office buildings, in many of which are to be found representatives of a number of diversified interests in Metals, Machinery, &c. The Hardware and Cutlery trade, both foreign and domestic, is found largely in Duane, Reade, Chambers, Warren and Murray streets, manufactured Brass and Copper, House Furnishing Goods and Rubber being for the most part confined to the same territory. Machinery, Railroad, Mill and Electrical Supplies are predominant in Dey, Cortlandt, Liberty and John streets, while Guns, Ammunition and Sporting Goods are generally found on Broadway and on streets between Duane and Murray. Sheet Metals are principally concentrated in Cliff, John, Pearl and Water streets. The Furnace, Range and Stove section, with related branches, is principally in Beekman, Water and Front streets and Peck slip. Heavy Iron, Nails, &c., are chiefly located in West, Washington, Greenwich, William and Elm streets and Burling slip. The Plumbing, Steam and Gas Fitting interests are centered in John, Cliff, Gold and Beekman streets. Many large and important Metal interests are located in Wall and adjacent streets. No attempt has been made to represent the important export commission houses, who, while dealing largely in Hardware and manufactured Metals, handle extensively other lines, such as dry goods, groceries, provisions, grain, lumber, oil, &c. Many of these are situated in Cedar, Pine, Broad, New, Beaver, Stone, Pearl, Water, Front, South and William streets.

Aluminum Bicycles.

IT IS INTERESTING to learn that a process has been discovered by which aluminum is hardened and toughened, and in this condition may be substituted, in some instances, for steel. As the result of a long series of experiments, the Orange Machine & Mfg. Company, Orange, N. J., have succeeded in perfecting a process for hardening this metal, and are preparing to manufacture safeties in which the principal parts will be made of aluminum. Another serious difficulty was to obtain a solder that would solder aluminum, but that has also been discovered by them. At the factory we were shown a pair of aluminum pneumatic rims with securely soldered joints, the rims weighing 12 ounces each, instead of 2 pounds 5 ounces, the weight of steel rims. The soldered joint on the rims is patented, and is 1½ inches long. Through this joint, the strongest part of the rim, the valve hole will be made, whereas in the steel rim the hole is through a single thickness of the metal. They propose to make Bicycles with aluminum frames, forgings, hubs, spokes, rims, heads, handle bars, sprocket wheels, cranks, pedals, and with cork handles. In fact, the machine as designed will be all of aluminum except the saddle, ball bearings and the hardened steel cups in which they run. It is undecided as yet of what material the chain will be made. The tires used will be the Morgan Wright pneumatic. According to present calculations the road machine will not exceed 15 pounds in weight, in comparison with the present road safety of from 35 to 45 pounds. The name of this wheel has not been definitely decided upon. It will probably be known as the Orange, although Essex is also under consideration as a name. The company expect to have the machines ready for the season of '93, heir price being from $160 to $180.

Trade Items.

ATLAS TACK CORPORATION, Boston, Mass., issue a circular relating to their improved style of packing their goods and their system of labeling them. When called for on their A. Field & Sons brand of Class A goods they will use their patent telescope wrapper boxes, labeled with the colored labels, a distinct and separate color being used for each class of goods. The sizes are printed in large figures on the labels, also symbols indicating whether the goods are packed full, half or quarter weight. *Fac similes* of a few labels are shown in colors on the circular. Goods in this box, labeled as above, are known as the Atlas package.

STANLEY WORKS, New Britain, Conn., and 79 Chambers street, New York, devote their page advertisement in this issue to their new Gravity Blind Hinge, illustrations of which are given. The company report that there has been an unexpectedly large demand for this Hinge, orders coming in beyond their capacity to execute them promptly. They have, however, enlarged the production, and expect soon to be in a position to fill orders without delay.

THE BRONSON SUPPLY COMPANY, Cleveland, Ohio, and 72 Beekman street, New York, announce that their Wrought Steel Cooking Utensils, tinned inside, are now sold at the same prices as the polished, at instead of at an advance, as heretofore. Reference is also made to the

fact that sales are of such volume that of late it has been difficult to furnish many of the sizes and styles fast enough to meet the requirements of the trade, but as soon as their new buildings are completed and the additional machinery in operation, they expect to be able to fill orders promptly.

AMERICAN MANUFACTURERS who are desirous of securing the sale of their goods in foreign markets will be interested in the advertisement among the Special Notices in this issue in which Simonsen & Neilsen, Copenhagen, Denmark, solicit correspondence with manufacturers of Agricultural Implements, Hardware, &c., with reference to the introduction of their goods in Scandinavia and Russia.

IN THEIR ADVERTISEMENT in this issue E. S. Wheeler & Co., New Haven, Conn., call attention to Gilbertson's Old Method Roofing Tin, made by W. Gilbertson & Co., Pontadawe, Wales, which as agents they are offering to the trade in this country.

IT WILL BE OBSERVED that French & Linforth, San Francisco, Cal., in their advertisement on another page 75 announce their desire to secure agencies of Eastern manufacturers to the jobbing trade on the Pacific Coast, and invite correspondence to that end. They allude to their experience in this business and the fact that they are representing, among other manufacturers, the American Axe & Tool Company.

KELLEY & WOOLWORTH, Niagara Falls, N. Y., in their advertisement on another page illustrate their 21 per cent. Nickel Silver Flat Ware. These goods are made in three weights, and the manufacturers state that the Ware is as white as silver and possesses great durability. It is further mentioned that the Ware is offered at only a slight advance over the price of Brass Plated Ware.

AN ILLUSTRATION of one of the Practical Sliding Display Trays put on the market by the Campbell Cutlery Company, Syracuse, N. Y., is given in their advertisement in this issue. The brilliant display secured by these Trays is referred to by the manufacturers, who also call attention to a liberal offer which they are making the trade on Campbell's Razor's, &c.

EDWARD G. SHEPARD, 142 Chambers street, New York, has accepted the agency for the Phœnix Mfg. Company, of Taunton, Mass., who manufacture the Indestructible Crucibles. In connection with this agency he does a brokerage business in Builders' and General Hardware, Railroad Contractors' and Manufacturers' Supplies. Goods are shipped from factory, direct to the parties for whom they are purchased, and billed by Mr. Shepard to them.

A DECISION HAS BEEN RENDERED by the United States Court of Appeals in the Le Page's Glue trade-mark suit, in which the Court of Appeals fully sustains the validity of such trade marks, and reaffirms the exclusive right of the Russia Cement Company to the word "Le Page," when used to designate Glue. It is claimed that William N. Le Page was an active member of the Russia Cement Company for a number of years, and in 1886 sold all his stock and severed his relations thereto, but claimed the right to use his own name to designate similar goods made by him or by the Le Page company, on the ground that a man always had a right to use his own name to designate his own products, and that therefore a proper name could not be lawfully used as a trade-mark. According to the decision of the court, the right to thus use his name is denied him.

UNDER THE EFFICIENT MANAGEMENT of W. H. Blades, the business of Rogers & Ordway, Plumbers', Steam Fitters', Mill, Mining, Railroad and Lumbermen's Supplies, Duluth, Minn., has increased to such an extent that it has become necessary for the firm to secure larger and more convenient business facilities. They have accordingly leased the new Howard Building, east of Lake avenue on Michigan street. The building is five stories high, 50 feet front, and 100 feet deep, with elevators, &c. The firm will add to their present lines a full and complete assortment of ship chandlery. The principal office of the firm is at St. Paul, the Duluth branch being in charge of Mr. Blades.

ANNOUNCEMENT is made by Charles L. Colburn, general agent Norton Iron Works, and Henry B. Lupton, sales agent Oliver & Roberts Wire Company, Cincinnati, Ohio, that on October 1 they returned to the office so long occupied by Mr. Colburn, Room 3, Johnston Building, Fifth and Vine streets. Here they will be glad to receive the orders of the trade for Steel Cut Nails, Smooth Wires of all kinds, Barbed Fence Wires and Wire Nails.

JAMES SURPLESS, of Surpless, Dunn & Alder, 97 Chambers street, New York City, whose energy and enterprise are recognized by the trade, has just started on a long business trip for the purpose of visiting several of their principal factories, and intends making many of the larger points in the South and West previous to his return. This concern also report an increase in their force of traveling salesmen, all of whom are away and doing a good business. They also say that their factories are very busy; several of them, notably Kelly Axe Mfg. Company of Louisville, Ky., Nes Chain Mfg. Company of York, Pa., H. Chapin's Son of Pine Meadow, Conn., and Lamson & Sessions Company, Cleveland, Ohio, are behind their orders and find it difficult to keep their customers satisfied in supplying contracts now in hand. All of their other factories are running full time, and they say regarding the Hamden Mfg. Company, that theirs is the only factory that has run full time since it started up in May of 1889, not a day having been lost except for absolutelynecessary repairs.

Price-Lists, Circulars, &c.

IRON CLAD MFG CO., 22-24 Cliff St., New York: Catalogue of new goods, Enameled Iron Ware, guaranteed by them absolutely pure and durable, including Coffee and Tea Pots, Tea Kettles, Coffee Biggins and Boilers, Pans, Bowls, Sauce and Stew Pans, Preserving Kettles, Pots, Molds, Buckets, Cups, Plates, Baby Food Cups, Measures, Butter Kettles, Batter Buckets, Soap Dishes, &c. Attention is called to those interested that they will add to the assortment from time to time, making it a complete and attractive line of Enameled Iron Ware.

CLIMAX MFG. COMPANY, Chicago, Ill.: Climax Glass Oil Cans, Faucet Oil and Gasoline Cans, Pump Cans, Panel Tin Lamp Shades, Climax Side Lamps, Radiant Side Lamps, Police Lanterns, Climax Station Lamps, Street Lampsl Street Lamp Fittings, Climax Ventilators and Chimney Caps, Lamp Burners, Lantern Globes, Oil Stoves and Heaters, &c.

THE ENTERPRISE MFG. COMPANY, Akron, Ohio: The Reversible Hinge Lug and Flexible Weed Protector Trolling Baits. Illustrated circulars of the above goods are furnished free, with merchant's name and address. The manufacturers call attention to their Nickel and Pearl Spoon Baits, Snell Flies, Furnished Lines, Phantom Minnows, Sinkers, Floats, Rubber Baits and Insects, Leaders and Casting Lines, Flexible Weed Protectors, Fly Cream, Fish Stringers, &c., for next year's trade. They state that they have added many new goods to their line of Luminous and Non-Luminous Fish Baits and Anglers' Specialties.

WM. FRANKFURTH HARDWARE COMPANY, Milwaukee, Wis.: Price current of new and seasonable goods for the fall of 1892. Illustrations are given of Stove Boards, Skates, Fire Sets and Stands, Lanterns, Cross Saws, Snow Shovels, Hods, Vases, Oil Cans, Hollow Ware, Meat Cutters, Lumbering Tools, Campaign Goods, &c.

SUTTON BROS. & BELL, Indiana, Pa.: Agricultural Implements. Illustrations, descriptions and prices are given of Martin Stump Machine, Drag Scrapers, Land Rollers, Dog Power, Cider Mills, Vases, Cant and Mill Hooks, Tire and Axle Upsetters, Champion Blower, Farm Bells, Farm Cart, Low-Down Farm Truck, Grain Drill, &c.

AMERICAN CUTLERY COMPANY, Chicago, Ill.: Table Cutlery. Moiets, Butter Knives, Fruit Knives, Nut Picks, Nut Cracks, Butcher, Sticking, Skinning and Hunting Knives, Cooks' Forks and Knives, Ham Slicers, Cheese Knives, Bread Knives, Can Openers, Kitchen Knives, Putty Knives, Spatulas, Cigar Box Openers, Cigar Makers' Knives, Paper Hangers' Knives, Letter Openers, Cheese Triers, Fish Scaling Knives, Cheese Scoops, Fish Carvers, Salad Servers, Crumb Gatherers, Knives and Forks, Orange Knives, Nut Picks, Carvers in cases, &c. A large-sized catalogue of 141 pages illustrates these goods finished cow bone, ebony, silver, rubber, celluloid, ivory, stag, carved pearl and oxidized handles, showing attractive patterns and elaborate workmanship. In issuing this catalogue the manufacturers have aimed to have it so complete that their customers can make up orders for what they require as readily as if their representative was on the ground with a full line of samples. The telegraph code will be found convenient in cases where goods are needed quickly.

THE HURON GRINDSTONE COMPANY, Port Austin, Mich.: Grindstones and Scythe Stones. An illustrated price-list shows the Eagle Bay, Huron Chief, Red Cross, Peerless, Crescent and Golden Clipper, which include their leading brands of Scythe Stones. The Stones are represented with labels printed in colors. The company state that they are prepared to furnish these goods promptly and in any quantities. Their quarries are located at Grindstone City, Mich., and are referred to as being a part of the deposit of Blue Sandstone from which Lake Huron Grindstones and Scythe Stones are quarried.

It Is Reported—

That W. H. Dunham and Wales O. Berkeley of Plattsburg, N. Y., have formed a copartnership, and will engage in the Hardware business at Tupper Lake, where Mr. Berkeley is postmaster.

That Samuel E. Bean, Hardware dealer, Biddeford, Maine, has just erected a fine powder house. It is built of brick and iron.

That Bohrer & Mueller, Hardware dealers, St. Paul, Minn., have been succeeded by J. H. Bohrer.

That George D. Dahlberg has succeeded Henninger & Dahlberg in the Hardware business at St. Paul, Minn.

That burglars broke into the Hardware store of Bolger & League, San Angelo, Texas, on the 22d ult., blew open the safe and secured some valuable papers and a small amount of money. There is no clue to their identity.

That thieves broke into John Horne's Hardware store at Pleasant Unity, Pa., on the 25th ult., and stole about $200 worth of goods, consisting of Guns, Revolvers, Knives, Razors, &c.

That H. R. Woodruff has bought the Hardware stock of J. E. Bennett & Sons, Windsor, N. Y., and will remove his stock to the Bennett Block.

That the Hardware store of A. L. Winder & Co., Berkley, Va., was robbed on the 22d ult. of about $100 worth of goods.

That A. Ferland & Co., Hardware merchants, Everett, Minn., have sold out.

That the store of A. M. White, Hardware merchant, Greenwood, Wis., was broken into by burglars a week or two ago and $50 worth of Pocket Knives and $20 worth of Revolvers and Razors abstracted.

That Lee & Kopplin, Bellingham, Minn., have been succeeded by Kopplin & Rothlisberger.

That the Wadleigh Hardware Company, Manchester, N. H., have taken possession of their new and handsome Hardware store.

That Goodenow & Winter, Hardware dealers, Granite Falls, Minn., have opened a branch store at Maynard, which will be conducted under the name of the Maynard Mercantile Company.

That L. M. Nash & Co., dealers in Hardware, &c., Centralia, Wis., have sold out to the Centralia Hardware Company.

That on October 1 J. Schmidt, Jr., will open a Hardware store in the Shattuck Block, Berkeley, Cal.

That J. Waldsmith's Hardware store at Waverly, Iowa, was burglarized on the 18th inst. Pocket Knives to the amount of $40 were stolen.

That the Hardware store of Ludwick, Hughes & Dampman, Honeybrook, Pa., was entered by burglars on the 21st inst., the value of the stolen goods being $200 or $300. Among the articles taken were 14 Guns, a lot of Revolvers, 40 dozen Pocket Knives, besides Table Cutlery, &c. The firm had only the day before laid in a new stock of Guns.

That C. O. Stone, Gardner, Mass., has sold out his Hardware store to A. W. Conant of Athol, Mass.

That an unsuccessful attempt was made on the 17th inst to burglarize the Hardware store of Vaden & Co, Manchester, Va.

That the Hardware store of M. Reinhardt & Son, Lincoln, Ill., was entered on the night of September 15 and robbed of four Revolvers and 32 Razors.

That P. Roberts, Jr., and Dennis Tierney have opened a Hardware and Stove store at Independence, Mo., opposite the Nichol Hardware store on South Main street.

That Wm. H. Dunham of New York has purchased the Hardware business of T. H. S. Cone, Bound Brook, N. J.

That Frank M. Jones will engage in the Hardware business at Webster, N. Y.

That Henry Lundt of Hammond, Ind., has opened a Hardware store at East Chicago.

That Mr Saph, whose Hardware store was destroyed by fire in Rixford, Pa., in 1884, received his insurance on the same September 17, 1892.

Paints and Colors.

It should be understood that the prices quoted in this column are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a considerable range of prices.

Business in the leading lines of Paints and Colors has been on a rather larger scale during the past week, and it is the almost unanimous report that the outturn of goods is not only fully up to the average for this season of the year, but meeting the most sanguine expectations of manufacturers, importers and jobbers. Naturally the mere fact that a Presidential year has a certain amount of bearing upon operations in various trades and industries tends to restrain business to a certain extent, but with due allowance for this circumstance, it is evident that the autumn season consumption affords satisfaction, and it is plain also that fluctuations in cost of raw materials and competition in manufactured goods are within bounds that leave no cause for anxiety about the immediate future. That is to say, there is really nothing in the general situation calculated to impair confidence to the slightest extent.

White Lead.—There are some signs of sharper competition in some of the Western centers where the "trust" corroders, so-called, do not have a practical monopoly, and evidence is not wanting that some Eastern concerns employing the "quick process" are energetically at work pushing the sale of their wares. The manufacturers of cheaper pigments, commonly known as mixtures, are also on the alert and allowing no grass to grow under their feet. Still, it does not appear that matters have reached a climax necessitating revision of prices by the combined corroders, and the claim that the market is taking care of itself in very good form would, therefore, appear to rest on solid foundation. Outside producers modify their rates at times, and jobbers follow the old policy of adjusting prices so as to best serve their particular interests. As to business, it is the general report that a freer movement could hardly be looked for at this time of the year, and that prospects are encouraging.

The Carter White Lead Company, who are now turning out about 1000 tons of White Lead per month at their Omaha factory, are arecting new works at Chicago, and claim that when their new establishment is in operation, they will have a total capacity of about 2000 tons per month. This company is looked upon as likely to be a formidable competitor with the "trust," particularly in Western markets, at no distant day.

Zincs.—The sale of American Oxide is proceeding in a manner quite satisfactory to most manufacturers. The total capacity of works has never before been as large as it is at the present time, but all accounts go to show that the output is not a great deal ahead of deliveries, and that the old line of prices for the various grades is adhered to. Foreign product is selling fairly, chiefly in moderate-sized lots, and prices remain without change.

Colors, &c.—There has been quite the average trade in goods used by grinders, and prices all along the line remain very much the same as they have been for some time past. Dry and Oil Colors for house-Painters' use and special work have also been moving out in a fairly satisfactory manner, and the trade in ready-mixed Paints is represented as being fully up to the average. In prices there have been no radical changes, but the upward movement in cost of Linseed Oil seems likely to lead to higher figures for Oil Colors ere long.

Miscellaneous.—Block Chalk for future arrival is held at full former prices, there being little on offer that is due here for several weeks. Large consumers are well supplied, however, and do not raise their bids. Whiting is meeting with very fair sale at former prices, and the movement in Putty is up to the average. Prices are showing no radical change. Barytes move out very fairly at about former prices. There is no new feature in the market for China Clay, Terra Alba or Talc.

Oils and Turpentine.

All the strong features that prevailed last week in the market for Animal and Vegetable Oils exist at this writing. The late conflicting interests in the Linseed Oil branch have, superficially at least, buried the hatchet; the market for Lard and inferior Greases has continued strong enough to facilitate sales of various Oils with which they come into competition, and as though to help matters along, the Menhaden Oil combine have raised their prices to the extent of 2¢ ℔ gallon. Of weak features there is absolutely nothing to report, nor does there seem to be any reason for apprehension except that the Lard deal may collapse and temporarily have more or less unfavorable bearing upon goods directly connected therewith. Business has not been particularly lively in any line, but there is still a good seasonable movement all along the line and the prospects are encouraging to say the least.

Linseed Oil.—It is the popular belief that, tiring of the contest with the combined concerns, the independent crushers have surrendered, and decided to fall in line with the policy mapped out by the aggregation of capital and power. That impression is strengthened by the fact that the various interests are now quoting practically the same prices and that aggressive competition has almost ceased to exist in this quarter. The rise of 3¢ ℔ gallon, referred to last week, materially operated to check business, since the large consumers had previously stocked up freely and jobbers had put in a very good supply. Lattterly, however, business seems to have gotten in about the usual form, and at this writing there is a fair average distribution.

Cotton Seed Oil.—While not of extraordinary proportions, the volume of business in Cotton Seed products makes a very fair showing and the market seems to be gradually shaping for a steady increase in both export and home trade sales at present or better prices with the advance of the usually active season. Competing Oils are relatively higher than Cotton Seed products, and surplus stock of old has been marked down considerably. Besides that, there is to be considered the fact that prospects for raw material are not particularly bright elsewhere than in Texas. In fact, the appearances at present are that a little more life to the demand is about all that is needed to bring about a really strong market. Business the past week has been chiefly at 27½¢ @ 28¢ for prime crude, 30¢ @ 30½¢ for prime Summer Yellow, 31½¢ for prime Summer White and 31½¢ @ 32¢ for Butter Grade Yellow.

Lard Oil.—Although speculation has caused wide and rapid fluctuation in market rates for raw material, pressers have made no decided change in their prices for either prime or low grade Oil. Sellers of outside brands have likewise held to former rates, and, while the surroundings all favor a strong market buyers operate as indifferently as they have at any previous time during the past three or four weeks.

Menhaden Oil.—The combination have advanced prices for crude Oil 2¢ ℔ gallon, or to 33¢ for prime Northern and 32¢ for prime Southern. There has been little buying of late, but the claim is made that, owing to poor fishing latterly and doubtful prospects for the balance of the season, the higher prices are fully justified. Thus far manufacturers have made hardly any change in their prices for Pressed Oil, but Bleached is about 1¢ higher and offered with more or less reserve pending later developments.

Sperm and Whale Oils.—A good business in crude Sperm has been effected in New Bedford at former prices, but Whale Oil remains quiet, owing to extremely light supply. In the manufactured products there has been a fair jobbing trade, and prices remain without decided change.

Spirits Turpentine.—Some sales were made early in the week at prices below those quoted in our last report, but the market has since gained tone under the influence of rather better sales here and more encouraging advices from the South. The bulk of business was at 28½¢ for regular and 29¢ for machine barrels.

Heater and Shade for Taper Night Lights.

F. Busch, 251 Bowery, New York, is introducing this article, as illustrated herewith.

The tumbler is filled to within ¼ inch of the top with water, after which about ¼ inch of sweet oil is added. A box containing a float is then placed on the oil,

Heater and Shade for Taper Night Lights.

and the taper light is put on the float The heater and cup are then placed on top of the tumbler as shown in the cut, and the taper lighted.

The manufacturer claims that there is no smell, no smoke and no danger, and that only 1 cent's worth of oil is consumed each night. By placing the light on a chair by the bed, it is stated, warm liquids will be at hand all night.

Improved Market Scale.

John Chatillon & Sons, 85–89 Cliff street, New York, have just added an improvement to their high column market scales, as here shown, which consists of an extra base, so made as to fit under any high-column market scale, adding 4 inches to the hight and bringing the platform 8 inches above the counter. This scale is almost exclusively used by butchers, and the criticism has been made that for some purposes it did not stand sufficiently high to keep the meat from overlapping and resting on the bench. The extra base has been added to overcome this difficulty. The broad light band in the cut indicates the top of the base, there being on the inside a raised rim or edge running completely around, to keep the body of the scale securely in place and prevent slipping. These scales are made with iron platform or marble slab, with 6 or 8 inch dial, and will weigh 25 and 32 pounds by 1 ounce, 50 and 64 pounds by 2 ounces, and 128 pounds by 4 ounces.

High Column Market Scale, with Extra Base.

The Wilcox Anti-Rattler.

Wm. R. Hartigan & Co., Collinsville, Conn., are putting this article on the market, as illustrated herewith. It consists of a piece of spring steel, bent as shown in the cut, having projections at both sides of the top to hold it in place. There is a small hole in each end to receive the lugs on a straight steel key, the illustration showing how the spring is put in place, also the key at the bottom. The anti-rattler is adjustable to take up the wear of the bolt, and the shaft does not have to be taken out to put the spring in place. The manufacturers claim that the device prevents the rattling of the shafts, also the rapid wearing of the shackle bolt, and that it never gets loose when once in place. They are made in sizes to fit all vehicles, and warranted for one year.

The Wilcox Anti-Rattler.

Four-Twist Plate Handle.

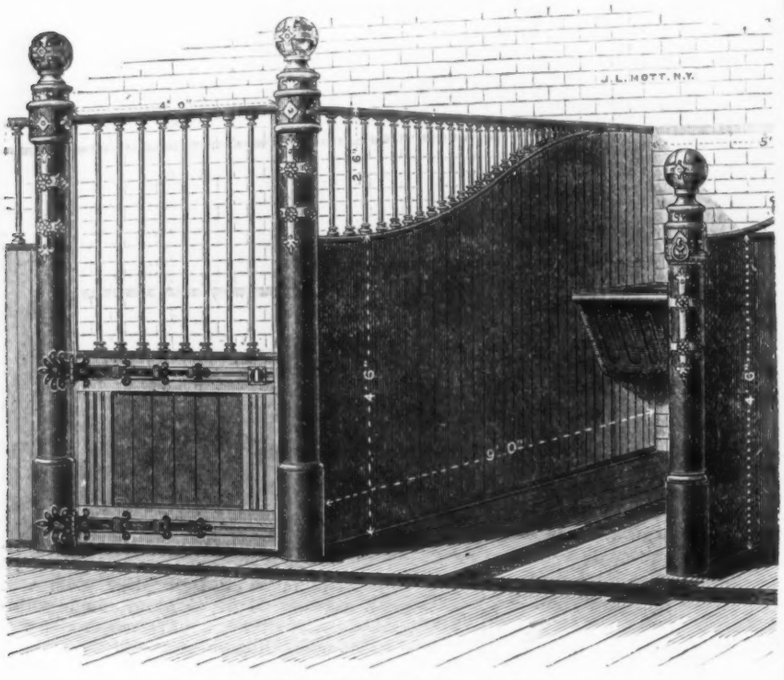
Hamblin & Russell Mfg. Company, Worcester, Mass., are introducing this handle, as shown in the accompanying cut. The novel feature is the combination of the twisted and plain wire twisted together, giving it a decorated appearance. It is suggested by the manufacturers that a beautiful effect may be produced by winding the handle with round silk cord between the twisted wires both ways and then ornamenting the ends of the handles with bows of ribbon. Plain handles are made of the same pattern. The handles are designed for use on cake, fruit, card plates, &c.

Four-Twist Plate Handle.

The Navy Department issued, September 28, proposals for the construction of a 9000-ton battle ship, with a speed of 16 knots per hour, and an 8000-ton armored cruiser, with a speed of 20 knots an hour. The usual premiums for extra speed will be allowed.

Stable Fittings.

In the accompanying illustration (copyrighted) is shown a new design in box-stall divisions, fronts and doors, recently brought out by the J. L. Mott Iron Works, 84–90 Beekman street, New York. It will be noticed the ogee guard is inverted. By its adoption the horse in the stall is secluded from the one in the box, and a complete finished appearance is given to



Box Stall Division, Front and Door.

the stable, as the curve of the inverted guard is made to correspond with that of the guard in open-stall divisions. The partition is sufficiently high to prevent one horse from entering with another, while the door is open far enough down to enable the keeper to readily see the animal in passing and note anything amiss.

Champion Chain Pipe Wrench.

Greene, Tweed & Co., 83 Chambers street, New York, as sole agents, are introducing the Champion Chain Pipe Wrench, as shown in Figs. 1 and 2. It is a device for gripping, turning or holding pipe, bolts, shafts, or round surfaces from ⅛ to 14 inches in diameter. The points made by the manufacturers are that it is equally proportioned throughout, giving it strength and durability with the least weight. The handle will not bend, the teeth are especially designed for this style of wrench, and special care taken in tempering them. The pins or projections on jaws which the chain hooks on to are strong enough to bear all strain, and the drop-forged hook, which constitutes the outside link of chain, is sufficiently strong, the hooking strain of chain being brought to bear on the patent link and not on the rivet, thus giving a strong, positive and easy-hooking chain. The rivet which secures the chain to the wrench is one-sixteenth larger than any other rivet in the chain, and the link is also larger, giving it a chance to wear, as the chain swings from it. The chain when wrapped around the pipe starts at a right angle from the wrench and all the pull comes on this pin, making a rear support of no use. The chain hanging on the center allows it to swing both ways, making it a double wrench, and whichever way the operator puts it on, it is right side up, giving both sides equal wear. The handle is secured to the wrench in an ingenious manner, as shown in Fig. 2, in which the inside construction and manner of fastening together is exposed. The cylinder projection on the handle head and recesses in the jaws give it twice the bearing surface in the same space. The handle and jaws are riveted together by the same rivet that secures the chain, doing away with projecting screw heads, which are in the way when used against flat surfaces. The parts are made to standard gauges and interchangeable, so that if from any cause a part fail, it can readily be replaced with a perfect one. The wrenches are sold with a full guarantee.

Fig. 1.—Champion Chain Pipe Wrench.

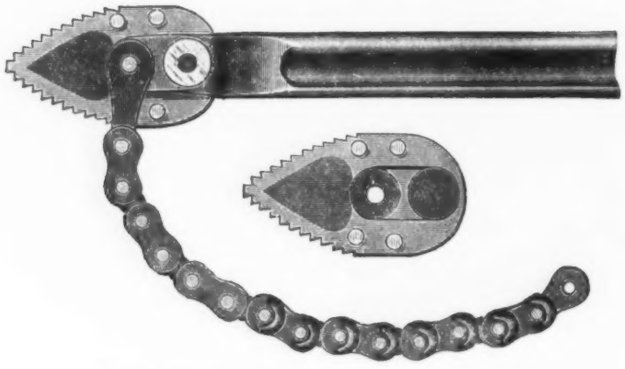


Fig. 2.—Showing Inside Construction of Wrench.

Sheet-Metal Tubs.

W. J. Clark & Co., Salem, Ohio, have introduced for use in bolt and nut factories, or other shops where similar articles are manufactured, sheet-metal tubs, as shown in Fig. 1. They are made of soft sheet steel of any strength necessary to adapt them to the particular use for which they are wanted. Several hundred were recently made for a Western iron works of No. 16 gauge of steel, calculated to hold 500 pounds of hot bolts. Heavy square iron bands were put around the top to stiffen them, so that they can be moved with their load without straining them out of shape. Some were made with wooden bottoms, Fig. 2, which bottoms were put in by

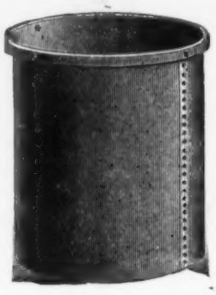


Fig. 1.—Sheet-Metal Tub.

Fig. 2.—Metal Tub with Wood Bottom.

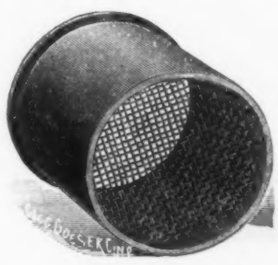


Fig. 3.—Metal Tub with Woven Wire Bottom.

powerful machinery, so as to make the vessel oil tight and quite suitable for holding articles saturated with oil, to prevent the oil from dripping upon floors. Others were made with woven wire bottoms, Fig. 3, by means of which a quantity or tubful of greasy bolts or nuts may be washed with benzine, and thus quickly cleaned.

Carr's Improved Combination Surface Gauge.

The Hoggson & Pettis Mfg. Company, New Haven, Conn., are introducing this tool, as illustrated in Fig. 1. The base is

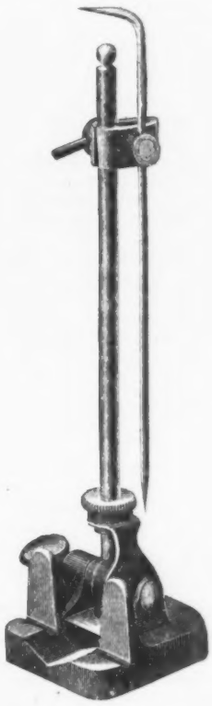


Fig. 1.—Carr's Improved Combination Surface Gauge.

cast, and contains a swinging shaft, adjustable to any degree, Fig. 2, thus giving it a large range in proportion to its hight.

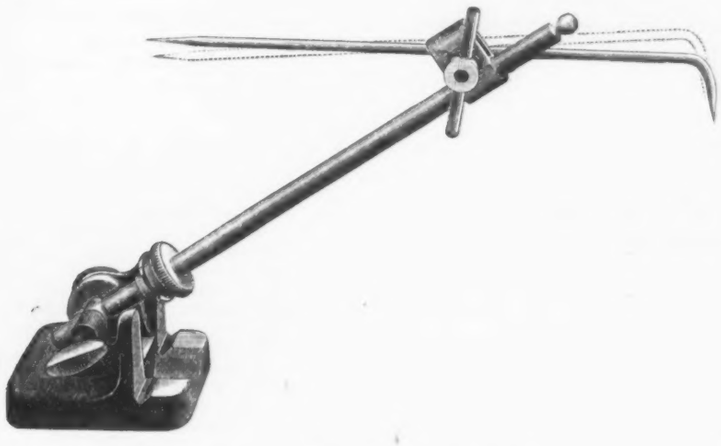


Fig. 2.—Gauge Adjustable to Any Degree.

After being set in any position it has a fine adjustment of ¼ to ½ inch, operated by an eccentric washer at the base of the shaft, which, it is stated, can be used without in any way disturbing the rigidity of the spindle. An angle is milled on the top of the base, Fig. 3, by which the tool can be adjusted to the edge of a bolt slot, planer bed, or surface plate, to set work by, or to draw parallel lines. A scribing block can be made of it for laying out small work, Fig. 4, by removing the

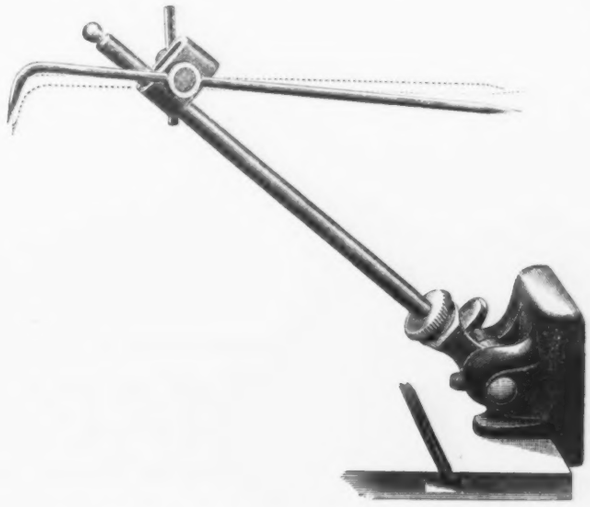


Fig. 3.—Gauge Set to Planer Bed or Surface Plate.

spindle and inserting the needle in its place, crossways of the V in the V-block. It is designed also to be used in laying out work on a lathe face plate, the V between the uprights of the angle on the top of the base being adjusted to the edge of the face plate when off the lathe, and one of the spindles being centered to be used on the lathe centers without the base, to locate and adjust work secured to the face plate. It can also be used either as a depth or a scratch gauge. The manufacturers state that the gauges are made of the best of material, and are finely finished with the best workmanship. The tools are made in three sizes, with gauges from 6 to 30 inches.

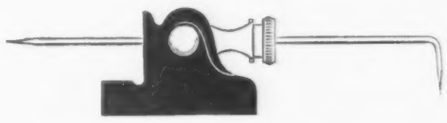


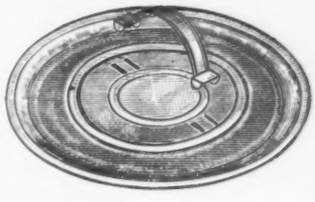
Fig. 4.—Gauge as a Scribing Block.

Nickel-Plated Copper Ware.

The Rochester Stamping Works, 141-143 Jones street, Rochester, N. Y., are introducing a handsome line of tea and coffee pots in a variety of sizes. They are made of copper, heavily tinned on the inside and nickel plated on the outside, then buffed, giving them a brilliant polish. Convenient and gracefully attached handles add much to the appearance of the goods. The construction of the pots is such as to render them durable.

The Buffalo Pot Cover.

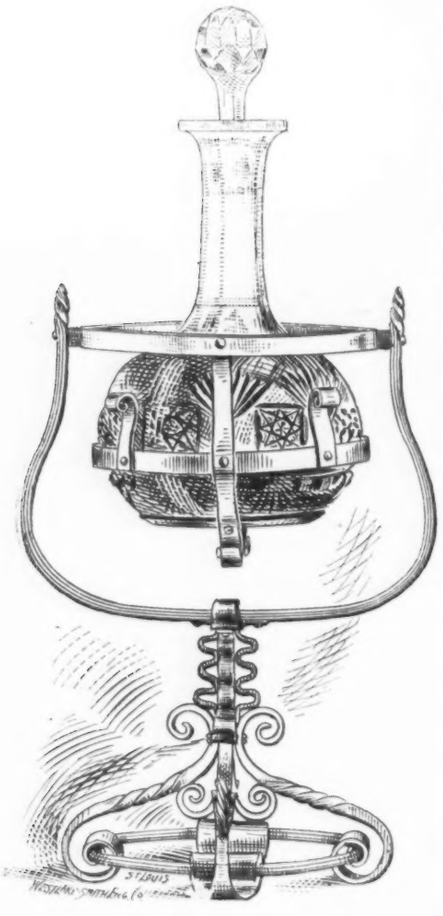
Sidney Shepard & Co., Buffalo, N. Y., are introducing pot covers with loose, attachable handles, as shown in the accompanying cut. The cover is furnished with four slots punched in it, into which the tongues on the handle are readily inserted and bent over on the under side with the fingers. The handles are shipped unattached to the cover, thus reducing the bulk. An assortment of covers can be carried in a small space, and the salesman can affix the handle while talking to a customer. The handles and covers are packed one dozen in a neat pasteboard box.



The Buffalo Pot Cover.

Swinging Decanter Holder.

Illustrated herewith is a decanter holder made by Ludlow-Saylor Wire Company, St. Louis, Mo., for a gentleman of that city. The holder was presented to the owner of a yacht and has been greatly admired, not only for the originality of design, but for the workmanship displayed in its manufacture as well. The holder is made to work on the principle of the compass, and is always upright no matter how high the sea may be running. The base and support are finished in Japanese bronze, the balance of the holder being oxidized silver.



Swinging Decanter Holder.

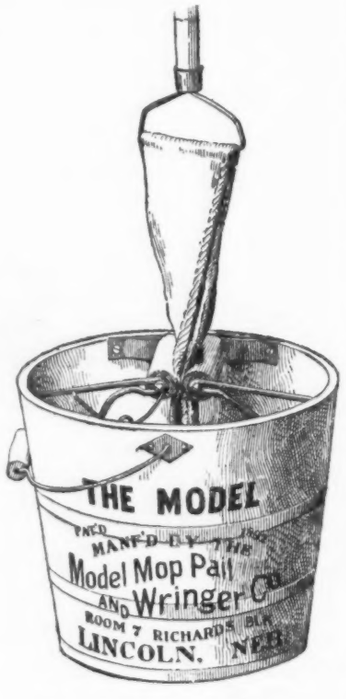
The Never-Slip Can Opener.

Walter Adams, 116 Chambers street, New York, is introducing this article, as illustrated herewith. The blade is made from tempered silver steel, securely riveted to the handle and sharpened to a knife-edge, so that it cuts the tin and does not tear it. The fulcrum, or bent part, and the blade are made from one piece, which materially strengthens the opener. The handle is round at the top, so that the hand is not bruised in puncturing the can with the point of the knife, while the opener is nicely tinned, to prevent it from rusting. In use the groove on the fulcrum runs on the edge of the can, and, being beveled, grips the edge, and, it is stated, prevents the opener from slipping. It is also claimed that, as it cuts at an angle, it does not bind in cutting. The cut represents the cutter used for cutting out the top of a can, and the point is made that the knife cannot run down the side or into the center of the can. By reversing the opener so that the end of the fulcrum points upward, the opener may be used equally as well in cutting around the outside of a can, in which case, it is stated, a flaring edge is left at the top of the can, so that the contents may be easily emptied out. It is claimed that any shaped can may be opened with this opener.

The Never-Slip Can Opener.

Model Mop Pail and Wringer.

Model Mop, Pail and Wringer Company, Lincoln, Neb., are introducing this pail, as illustrated herewith. Two wooden rollers are held near the top of a bucket by malleable iron brackets. One of the rollers is held firmly in place, while the other is allowed to slide in and out as the pressure is felt. This action of the roller is controlled by a spring strong enough, it is stated, to make a firm pressure on the mop and to thoroughly wring it. The device is referred to by the manufacturers as moderate in price.



Model Mop Pail and Wringer.

D. M. Thomas has been elected president of the Bower Barff Rustless Iron Company. Mr. Thomas is widely known to the iron interests throughout this country as an iron founder and as secretary of the National Association of Stove Manufacturers. He is a large stockholder in the Bower-Barff Company, and has now taken hold of the active management of its affairs. The company having acquired all of the Wells patents, as well as other patents, he has the co operation of Mr. Wells, president of the Wells Rustless Iron Company. The new Board of Directors of the Bower-Barff Rustless Iron Company is composed as follows: Dr. Rossiter W. Raymond of Cooper, Hewitt & Co.; George W. Maynard, the well-known mining engineer; Hon S. V. White, banker of Wall street; Peter Cooper Hewitt of Peter Cooper Glue Company; Charles L. Merritt, vice president Jones Hollow Ware Company, and Messrs. Thomas and Wells as above-mentioned. We are informed that several new furnaces are already in course of construction.

CONTENTS.

Current Hardware Prices.

OCTOBER 5, 1892.

Note.—The quotations given below represent the Current Hardware Prices which prevail in the market at large. They are not given as manufacturers' prices, and manufacturers should not be held responsible for them. In cases where goods are quoted at lower figures than the manufacturers name, it is not stated that the manufacturers are selling at the prices quoted, but simply that the goods are being sold, perhaps by the manufacturers, perhaps by the jobbers at the figures named.

The character @ is used to indicate a range of price; thus discount 50&10@50&10&5 % signifies that the goods in question are sold at prices ranging from discount 50 and 10 % to discount 50 and 10 and 5 %.

Adjusters, Blind—

Domestic.....₩ doz $3.00, 33⅓%
Excelsior....₩ doz $10.00.....50&10&2%
North's.....list net @ 10%
Zimmerman's—See Fasteners Blind.

Ammunition—See *Caps, Cartridges, Shells, &c*

Anvils—

Eagle Anvils, ₩ ℔ 10¢.....15@15&5%
Peter Wright's.....11@11½%
Armitage's Mouse Hole .....10½@11¢
Am. Wrought, Horse shoe brand..11@11½¢
Trenton.....10@10½¢
Wilkinson's.....10½@11¢
Moore & Barnes Mfg. Co.....33⅓%

Anvil Vise and Drill—

Millers Falls Co., $18.00..... .....20%
Cheney Anvil and Vise.....25%
Allen Anvil and Vise, $3.00.....40&10%
Star.... .....45&5%

Apple Parers—See *Parers, Apple, &c.*

Augers and Bits—

Douglass Mfg. Co.....
Wm. A. Ives & Co.....
Humphreysville Mfg. Co.... .....
French, Swift & Co. (F. H. Beecher) } 75%
P. S. & W. Co.....
Rockford Bit Company.....
Cook's, Douglass Mfg. Co.....55%
Cook's, N. H. Copper Co..... .....60%
Ives' Circular Lip.....60%
Patent Solid Head.....30%
C. E. Jennings & Co., No. 10, extension lip.....40%
C. E. Jennings & Co., No. 30.....60%
C. E. Jennings & Co., Auger Bits, ₩ set, 32½ quarters, No. 5, $5; No. 30, $3.50.20%
Lewis' Patent Single twist.....45%
Russell Jennings' Augers and Bits.35&10%
Imitation Jennings' Bits.....60@60&10%
Pugh's Black.....20%
Pugh's Jennings Pattern.....30%
Car Bits.....60@60&10
Car Bits, P. S. & W. Co.....60&10
Snell's Car Bits 60%
L'Hommedieu Car Bits.....15&10%
Forstner Pat. Auger Bits.....20%
Cincinnati Bell-Hangers' Bits.....30&10

Bit Stock Drills—

Morse Twist Drills.....50&10&5%
Standard.....50&10&5%
Cleveland.....50&10&5%
Syracuse, for metal.....50&10%
Syracuse, for wood (wood list).30@30&5%
Cincinnati, for wood.....30&10%
Cincinnati, for metal .....45&10%

Expansive Bits—

Clark's small, $18; large, $26..35@35&10%
Ives' No. 4, ₩ doz. $60.....40%
Swan's.....40%
Steer's, No. 1, $26; No. 2, $22.....35%
Stearns' No. 2, $48.....20%

Gimlet Bits—

Common.....₩ gross $2.75@$3.25
Diamond..... ....₩ doz $1.25....40&10%
Bee.....25@25&5%
Double Cut, Shepardson's.....45@45&10%
Double Cut, Ct. Valley Mfg. Co.....30&10%
Double Cut, Hartwell's, ₩ gro.....$5.25%
Double Cut, Douglass'.....40&10%
Double Cut, Ives..... .....60@60&10%

Hollow Augers—

Ives'..... } 33⅓@33⅓
French, Swift & Co..... } &10%
Douglass'..... }
Bonney's Adjustable, ₩ doz $48...40&10%
Stearns'.....20&10%
Ives' Expansive, each $4.50..... .....50&5%
Universal Expansive, each $4.50.....20%
Wood's.....25@25&10%
Cincinnati Adjustable.....25&10%
Cincinnati Standard.....25&10%

Ship Augers and Bits—

L'Hommedieu's..... .....15&10@15&10&5%
Watrous'.....15&10@15&10&10%
Snell's.....15&10@15&10&5%
Snell's Ship Auger Patt'n Car Bits, 15&10@15&10&5%

Awl Hafts—See *Hafts, Awl.*

Awls—

Awls, Sewing, Common....₩ gr. 85¢@90¢
Awls, Should. Peg.....₩ gr. $1.50@$1.55
Awls, Pat. Peg.....₩ gr. 35¢@38¢
Awls, Shouldered Brad..₩ gr. $1.30@ 1.40
Awls, Handled Brad....₩ gr. $2.50@$3.00
Awls, Handled Scratch..₩ gr. $4.00@4.50
Awls, Socket Scratch..₩ doz. $1.10@$1.20

Awl and Tool Sets—See *Sets, Awl and Tool.*

Axes—

	Plain.	Beveled.
First quality, best brands	$7.00 @	$7.50
First qual., other brands	6.50 @	7.00
	6.75 @	
Second quality	5.50	6.00

Axle Grease—See *Grease, Axle.*

Axles—

No. 1....3¼¢@4¼¢, No. 2, 5¢@6¢ } 3% cash
Nos. 7 to 14.....60&10%
Nos. 15 to 18.....47½%
Nos. 19 to 22.....70%
Concord Axles, loose collar.....4½¢@6¢
Concord Axles, solid collar.....5½¢@7¢
National Tubular Self Oiling..... 33⅓%@33⅓&5%

Bag Holders—See *Holders, Bag*

Balances—

Spring Balances.....40%

	No. 2000	20	30
Chatillon, ₩ doz.....	$0.80	0.95	1.75 net
Chatillon Straight Balances.....			40%
Chatillon Circular Balances.....			50&10%

Barb Wire.—See *Wire, Barb.*

Bars—

Crow—

Cast Steel.....₩ ℔ 3½¢
Iron, Steel Points.....₩ ℔ 3¢

Basins, Wash—

Standard Fiberware, No. 1, 10½-inch, $2; 12-inch, $2.25; 13½-inch, $2.75; 15-inch, $3.25.

Beams, Scale—

Scale Beams, List Jan. 12, '82..50&10@ 50&10&5%
Chatillon's No. 1.....40%
Chatillon's No. 2.....50%
Custer's.....33⅓%

Beaters—

Egg—

Dover.....₩ doz $1.20@$7.50
Duplex (Standard Co.).....₩ doz $1.25
Rival (Standard Co.).....₩ doz $1.00
Duplex Extra Heavy (Standard Co.)... ₩ doz. $3.50
Bryant's.....₩ gross $14.00
Double (H. & R. Mfg. Co.), ₩ gro., No. 0 $12.00; No. 1, $15.00; No. 2.....$20.00
Easy (H. & R. Mfg. Co.)....₩ gro $12.00
Triple (H. & R. Mfg. Co.)....₩ gro $16.50
Spiral.....₩ gro $4.25 @ $4.50
Improved Acme (H. & R. Mfg. Co.).... ₩ gro. $9.00
Paine, Diehl & Co.'s.....₩ gro. $24.00
Silver & Co.....₩ doz $5.50

Culinary—

Keystone, P. D. & Co., Each, No. 1, $1; No. 2, $2 .....20%

Bells—

Cow—

Common Wrought..... ...60&10%
Western, Sargent's list.....70&10%
Kentucky, "Star".....20&10%
Kentucky, Sargent's list.....70&10%
Kentucky Durham.....70&10%
Dodge, Genuine Kentucky....70@70&10%
Texas Star .....50&10@50&10&5%

Door—

Gong, Abbe's.....33⅓&10%
Gong, Yankee.....45&10%
Gong, Barton's.....40&10@50%
Crank, Taylor's.....25&10%
Crank, Brooks'.....50&10&2%
Crank, Cone's.....10%
Crank, Connel's.....20&10%
Lever, Sargent's.....60&10%
Lever, Taylor's Bronzed or Plated....net
Lever, Taylor's Japanned.....25&10%
Lever, R. E. M. Co.'s.....50&10&2%
Pull, Brook's..... .....50&10&2%

Electric -

Wollensak's..... .....20%
Bigelow & Dowse.....20%
Taylor's.....20%

Hand—

Light Brass.....70&10%
Extra Heavy.....70%
White.....70%
Silver Chime.....33⅓&10%
Globe Cone's Patent).....25&10@35%

Miscellaneous

Call.....40@40&5%
Farm Bells.....₩ ℔ 3¢@3½¢
Steel Alloy Church and School Bells..40%

Bellows—

Blacksmiths'..... 60&10@60&10&5%
Molders'.....40&10@50%
Hand Bellows..... ....40&10@50%

Belting, Rubber—

Common Standard.....70@10@75&5%
Standard.....70&5@70&10%
Extra.....60&10@60&10&5%
N.Y.B.&P. Co., Carbon.....60%
N.Y.B.&P.Co., Diamond.....50%
N.Y.B.&P.Co., Para.....40%

Bench Stops—See *Stops, Bench*

Benders and Upsetters, Tire—

Stoddard's Lightning Tire Upsetters..15%
Detroit Perfected Tire Bender.....15%
Green River Tire Benders and Upsetters.... .....20%

Bits—

Auger, Gimlet, Bit Stock Drills, &c., see *Augers and Bits.*

Bit Holders—See *Holders.*

Blind Adjusters—See *Adjusters, Blind*

Blind Fasteners—See *Fasteners, Blind.*

Blind Staples—See *Staples, Blind.*

Blocks—

Cleveland Block Co., Mal. Iron.50@50&10%
Moore's Novelty, Mal. Iron.....50%
Sure Grip Steel Tackle Blocks... .....25%

Bolts—

Carriage, Machine, &c.—

Com. list June 10, '84.....75&10&5&2%
Genuine Eagle, Norway, list Oct. '84.... 80@80&10%
Phila. pattern, list Oct. 7, '84..75@75&10%
R.B.&W., old list.....70%
Machine, list Jan. 1, 1890..... 80@80&5%
Bolt Ends, list Jan. 1, 1890..... 75&10@75&10&5%

Door and Shutter—

Cast Iron Barrel, Square, &c.....70&10%
Cast Iron Shutter Bolts.....70&10%
Cast Iron Chain (Sargent's list)....65&10%
Ives' Patent Door Bolts..60&10@60&10&5%
Wrought Barrel.....70@70&10%
Wrought Square.....70@70&10%
Wr't Shutter, all Iron, Stanley's...60&10%
Wr't Shutter, Brass Knob.....40&10%
Wr't Shutter, Sargent's list.....60&10%
Wr't Sunk Flush, Sargent's list....55&10%
Wr't Sunk Flush, Stanley's list....50&10%
Wr't B. K.Flush, Co' mr.....55&10%

Stove and Plow—

Stove.....60%
Plow.....60&5%
R. B. & W., Plow.....55%

Tire—

Common, list Feb. 28, '83.....65%
Port Chester Bolt and Nut Company:
Empire list Feb. 28, '83.....65%
Keystone, Philadel., list Oct. '84.....80%
Norway, Phila., list Oct. '84.....75%
American Screw Company:
Norway, Phila., list Oct. 16, '84.....75%
Eagle, Phila., list Oct. 16, '84.....80%
Philadel., list Oct. 16, '84 .....80%
Bay State, list Feb. 28, '83.....65%
R. B. & W., Philadel., list Oct. 16, '84...80%

Borers, Tap—

Common and Ring.....20&10%
Ives' Tap Borers.....33⅓&5%
Enterprise Mfg. Co.....20&10&30%
Clark's.....33⅓&35%

Borax—

Per ℔..... .....9½@10½¢

Boring Machines—See *Machines, Boring.*

Bow Pins—See *Pins, Bow.*

Boxes, Wagon—

Per ℔.....2¾¢

Braces—

American Bit Brace Co..
Nos. 10, 12, 20..... ...60&10%
Nos. 11, 21, 24, 27.....70&10%
Nos. 22, 23, 25.....60&10&5%
Nos. 13, 26, 36, 37 .....70&10&5
Ball Braces, net.....$1.12 to $1.25
Amidon's,
Barker's Imp'd Plain.....75&10@80%
Barker's Imp. Nickeled.....65&10@70%
Ratchet.....75&10@80%
Eclipse Ratchet.....60%
Globe Jawed.....40@40&10%
Corner Brace.....40@40&10%
Universal, 8 in., $2.10; 10 in.....$2.25
Buffalo Ball.....$1.10@$1.15
Barber's,
Nos. 10 to 16.....50@50&10%
Nos. 30 to 33.....50@50&10%
Nos. 40 to 63.....50&10@50&10&5%
Saxton's,
Barker's Imp. Polished.....75&10@80%
Barker's Imp. Nickeled.....65&10@70%
Ratchet, Polished.....50&10@60%
Ratchet, Nickeled.....40&10@50%
Buffalo Ball, ...net, $1.10@$1.15
Bartholomew's,
Nos. 25, 27 and 30.....50&10@60&5%
Nos. 117, 118, 119.....70@70&5%
Common Ball, American.....$1.00@$1.10
Fray's Genuine Spofford s...50&5@50&10%
Fray's Nos. 70 to 120, 81 to 123, 207 to 414 50&10%
Ives' New Haven Novelty.....70@70&5%
New Haven Ratchet.....60@60@60&10%
Barber Ratchet.....60@5@60&10%
Barber's.....60&5%
Spofford.....60@5@60&10%
Osgood's Ratchet.....40&10@50%
P. S. & W. Co., Peck's Patent.....60%

Brackets—

Shelf, plain,
Regular, list.....65@70%
Sargent's list.....66⅔@66⅔&10%
Shelf, fancy,
Sargent's list.....66⅔@66⅔&10%
Other makes at a wide range of prices.

Bright Wire Goods—See *Wire.*

Broilers—

Henis' Self- } Inch..... 9 10 9x11
Basting. } Per doz...$4.50 5.50 6.50
New Haven.....50%
Wire Goods Co.....65&10%
Morgan Odorless.....₩ doz. $12, 33⅓%

Buckets, Well—

Galvanized—

Hill's.....₩ doz. 12 qt. $4.25; 14 qt. $5.25
Iron Clad.....₩ doz. 14 qt. $4.25@4.50
Helwig's Flat Iron Band.....$3.75
Helwig's Wired Top.....₩ doz $4.00

Bull Rings—See *Rings, Bull.*

Butcher's Cleavers—See *Cleavers, Butchers'.*

Butts—

Brass—

Wrought Brass.....80@80&10%
Cast Brass, Tiebout's.....50%
Cast Brass, Fast.....33⅓&10%
Cast Brass, Loose Joint.....33⅓&10%

Cast Iron—

Fast Joint, Narrow.....50&10&5@60%
Fast Joint, Broad.....50&10@60%
Loose Joint.....
Loose Joint, Japanned.....
Loose Joint, Jap. with Acorns..
Parliament Butts..... } .75@75
Mayer's Hinges..... } &5%
Loose Pin, Acorns.....
Loose Pin, Acorns, Japanned...
Loose Pin, Acorns, Japanned, Plated Tips.....

Wrought Steel—

Fast Joint, Narrow.....
Fast Joint, Lt. Narrow.....
Fast Joint, Broad..... .....
Loose Joint, Broad..... } .75@75
Table Butts, Back Flaps, &c..... } &5
Inside Blind, Regular.....
Indide Blind, Light.....
Loose Pin.....
Bronzed Wrought Butts. 50%

Calipers—See *Compasses.*

Calks, Toe—

Gautier, One Prong, Blunt.....5½@6¢
Burke's One Prong, Blunt.....5½@6¢
Burke's, Two Prong, Blunt.....7½@8¢
Burke's, One Prong, Sharp.....6½@7¢

Can Openers—See *Openers, Can.*

Caps—

Percussion—

Hicks & Goldmark's and Union Metallic Cartridge Co. ₩ 1000
F. L. Waterproof, 1-10's.....35@37¢
E. B. Trimmed Edge, 1-10's.....47@50¢
E. B. Grnd. Edge, Cent. Fire, 1-10's.... 47@50¢
Musket, Waterproof, 1-10's.....50@53¢
G. D.....27@30¢
S. B. Genuine Imported.....45¢
Eley's E. B.....50@58¢
Eley's D Waterproof, Central Fire..$1.00

Primers—

Berdan Primers, $1.00..... .....2%
B. L. Caps (for Sturtevant Shells) $1.00, 2%
All other Primers, $1.20.....2%

Cards—

Watson's Cotton, Wool, Horse and File, list January 28, 1891.. ..... 25%

Carpet Stretchers—

See *Stretchers, Carpet.*

Carpet Sweepers—

See *Sweepers, Carpet.*

Cartridges—

Rim Fire Cartridges.....50&5&2%
Rim Fire Military.....15&2%
Cent. Fire, Pistol and Rifle..... 25&5&2%
Cent. Fire, Military and Sporting 15&5&2%
Blank Cartridges, except 22 and 32 cal., additional 10% on above discounts.
Blank Cartridges, 22 cal., $1.75.....2%
Blank Cartridges, 32 cal., $3.50.....2%
Primed Shells and Bullets.....15&5&2%
B. B. Caps, Round Ball, $1.75.....2%
B. B. Caps, Con. Ball, Swgd., $2.00.....2%

Casters—

Bed..... } Brass.....55@55&10%
Plate..... } Others....60@60&10%
Shallow Socket... }
Deep Socket.....40&10%
Yale Casters, low list.....45%
Yale, Gem.....70%
Martin's Patent (Phœnix).....45&10@50%
Payson's Anti-friction.....70%
Payson's Truck.....60%
Giant Truck Casters 30%
Stationary Truck Casters.....50&10%
Socket Truck Casters.....50%
Gwinner's Common Sense.....50%
Gwinner's Hercules.....50%

Cattle Leaders—

See *Leaders, Cattle.*

Cement—

Victor Elastic.....5 ℔ pails ₩ ℔ 5¢

Chain—

Trace, Wagon and Fancy Chains, List revised April 21, 1890...60@60&10%
American Coil, in cask lots,

3-16	¼	5-16	⅜	7-16	½	⅝	¾
$7.60	5.30	4.45	3.80	3.65	3.50	3.40	3.25

Less than cask lots, add¼¢@½¢ ₩ ℔.
German Coil, list July 12, 1892..60@60&5%
German Halter Chain, list July 12, 1892, 60@60&5%
Covert Halter.....60&2%
Covert Traces.....35&2%
Covert Heel Chain .....50&2%
Oneida Halter Chain.....60@60&5%
Galvanized Pump Chain.....₩ ℔ 5½@6¢
Jack Chain, Iron.....80&10%
Jack Chain, Brass.....30%

Chalk—

White, case lots. ₩ gr 50¢; small lots 55 @ 56¢
Red, case lots....₩ gr 67¢; small lots 77 @ 78¢
Blue, case lots....₩ gr 75¢; small lots 85¢
See also Crayons

Chalk Lines—See *Lines.*

Chisels—

Socket Framing and Firmer

P. S. & W.
New Haven.
Witherby. } ..75@75&10%
Mix.
Ohio Tool Co.
Douglass.....75@75&5%
Buck Bros.....30%
Merrill.....60&10@60&10&5%
L. & I. J. White.....30@30&5%

Tanged and Miscellaneous.

Tanged Firmers.....40&10@50%
Butchers'.....$4.75@$5.00
Spear & Jackson's.....$5 to £
Buck Bros.....30%
Cold Chisels, ₱ lb.....15@16%

Chucks—

Beach Pat.....each, $8.00.....20%
Morse's Adjustable, each, $7.00,20@20&5%
Danbury.....each, $6.00,30@30&5%
Syracuse, Balz Pat.....25%
Graham Patent.....33⅓%
Skinner's Patent Chucks.
Combination Lathe Chucks.....33⅓%
Universal Lathe Chucks.....40%
Independent Lathe Chucks.....40%
Drill Chucks.....15%
Union Mfg. Co.
Victor.....$8.50, 25%
Combination.....40%
Universal.....40%
Independent.....40%

Churns—

Tiffin Union, each, 5 gal. $3.25; 7 gal., $3.75; 10 gal., $4.25.
McDermaid Star Barrel Churn, each 6 gal., $2.60; 10 gal., $2.75; 15 gal., $3.00; 20 gal., $3.25.

Clamps—

R. I. Tool Co.'s Wrought Iron.....25%
Adjustable, Cincinnati.....15&10%
Adjustable, Hammers.....15%
Adjustable, Stearn's.....30@30&10%
Stearn's Adjustable Cabinet and Corner.....30@30&10%
Cabinet, Sargent's.....60@&10%
Carriage Makers', Sargent's.....70&10%
Carriage Makers', P., S. & W Co...40&10%
Eberhard Mfg. Co.....40&5@40&10%
Warner's.....40&10@40&10&5%
Saw Clamps, see Vises, Saw Filers'.
Carpenter's, Cincinnati.....25&10%

Cleavers, Butchers'—

Bradley s.....25@30%
L. & I. J. White.....20&5%
Beatty's.....40@40&5%
New Haven Edge Tool Co.'s.....40%
P., S. & W.....33⅓&5@33⅓&10%
Foster Bros.....30%
Schulte, Lohoff & Co.....40@40&5%

Clips—

Norway, Axle, ¼ & 5-16.....55&5&5%
2d grade Norway Axle, ¼ & 5-16....65&5%
Superior Axle Clips.....60@&5@70%
Norway Spring Bar Clips, 5-16...50@5&5%
Wrought Iron Felloe Clips.....₱ lb, 5½¢
Steel Felloe Clips.....₱ lb, 5¢
Baker Axle Clips.....25%

Cloth and Netting, Wire
—See *Wire, &c.*

Cockeyes.....50%

Cocks, Brass—

Hardware list.....60&2%

Coffee Mills—See *Mills, Coffee.*

Collars, Dog—

Chapman Mfg. Company.....50&10@60%
Medford Fancy Goods Co.....40&10@50%
Embossed, Gilt, Pope & Steven's list, 30&10%
Leather, Pope & Steven's list.....40%
Brass, Pope & Steven's list.....40%

Combs, Curry—

Fitch's.....50&10@50&10&10%
Rubber, per doz., $10.00.....25%
American Curry Comb Co. .....33⅓@40%

Compasses, Dividers, &c.

Compasses, Calipers, Dividers.70@70&10%
Bemis & Call Co.'s
Dividers.....60&5%
Compasses and Calipers.....50&5%
Wing and Inside or Outside.....50&5%
Double.....60%
Call's Patent Inside.....30%
Excelsior.....50%
J. Stevens & Co.'s.....25&10%
Starrett's
Spring Calipers and Dividers....25&10%
Lock Calipers and Dividers.....25%
Combination Dividers.....25%

Coopers' Tools—
See *Tools, Coopers'.*

Cord—

Sash—

Common.....₱ lb, 10@11¢
Patent, good quality.....₱ lb, 12@12½¢
White Cotton Braided, fair, ₱ lb, 24½@25¢
Common Russia Sash.....₱ lb, 12½@13¢
Patent Russia Sash.....₱ lb, 14¢
Cable Laid Italian Sash.....₱ lb, 21@22¢
India Cable Laid Sash.....₱ lb, 12¢
Silver Lake—
A quality, White, 50¢.....25%
A quality, Drab, 55¢.....25%
B quality, White, 30¢.....10%
B quality, Drab, 35¢.....10%
Sylvan Spring, Extra Braided, White.34¢
Sylvan Spring, Extra Braided, Drab..33¢
Semper Idem, Braided, White.....30¢
Egyptian, India Hemp, Braided.....26¢
Massachusetts, White..... 20¢
Samson—
Braided, White Cotton, 50¢. 30@30&5%
Braided, Drab Cotton, 55¢.. 30@30&5%
Braided, Italian Hemp, 55¢.. 30@30&5%
Braided, Linen, 80¢.....30@30&5%
Tate's Cotton Braided, White, ₱ lb, 28¢.10%
Ossawan Mills—
Braided, Giant, White, ₱ lb, 30¢....20%
Braided, Giant, Drab and Fancy, ₱ lb, 35¢.....10%
Braided, Crown, White, ₱ lb, 50¢...50%
Braided, Crown, Drab and Fancy, ₱ lb 55¢.....30%

Wire Picture—

Braided or Twisted.....80@80&15%

Corkscrews—See *Screws, Cork.*

Corn Knives and Cutters
—See *Knives, Corn.*

Crackers, Nut—

Table (H. & B. Mfg. Co).....40%
Blake's Pattern, ₱ doz., $2.00.....10%
Turner & Seymour Mfg. Co.....50%
Acme, ₱ gross.....$30
Japanned.....50%
Nickel Plated.....10%

Cradles—

Grain.....50&5&2@50&10&2%

Crayons—

White Crayons, ₱ gross.....10¢
D. M. Stewart Mfg. Co., Metal Workers', ₱ gross, $2.50.....25%
D. M. Stewart Mfg. Co., Rolling Mill, ₱ gross, $2.50.....25%
See also *Chalk.*

Crow Bars—See *Bars, Crow.*

Curry Combs—
See *Combs, Curry.*

Curtain Pins—
See *Pins, Curtain.*

Cutters—

Meat—

Dixon's, ₱ doz.....40&5%

Nos.	1	2	3	4
	$14.00	$17.00	$19.00	$30.00

Woodruff's, ₱ doz.....40&5%

Nos.	100	150
	$15.00	$18.00

Hale's Pattern, ₱ doz.....70@70&5%

Nos.	11	12	13
	$27.00	$33.00	$45.00

American.....30%

Nos.	1	2	3	4	B	5
Each	$5	$7	$10	$25	$50	$60

Enterprise.....30%

Nos.	10	12	22	32	42
Each	$3	$2.50	$4	$6	$15

Great American Meat Cutter.....30%

Nos.	112	116	118	120	122
Each	$2.00	$2.75.	$3.00	$3.50	$4.00

Miles' Challenge, ₱ doz.....45@45&10%

Nos.	1	2	3
	$22.00	$30.00	$40.00

Home No. 1, ₱ doz., $26.00.....55&10%
Draw Cut, each:

Nos.	5	6	8
	$50	$75	$80

$225.....20@25%
Beef Shavers (Enterprise).....20&10@30%
Little Giant (P. S. & W. Co.).....50%
Chadborn's Smoked Beef Cutter, ₱ doz., $66.00

Tobacco

Champion.....20&10@30%
All Iron.....₱ doz., $4.25
Nashua Lock Co.'s..₱ doz., $18.00, 50@55%
Wilson's.....55%
Sargent's.....₱ doz., $24.00, 55&10
Acme.....₱ doz., $20.00, 40%

Washer—

Smith's Pat.....₱ doz., $12.00, 20&10&10%
Johnson's.....₱ doz., $11.00, 33⅓%
Penny's..₱ doz., Pol. $14; Jap'd, $16, 55%
Appleton's.....₱ doz., $16.00, 60&10%
Bonney's.....30&10%
Cincinnati.....25&10%

Dampers, &c.—

Dampers, Buffalo.....40&10%
Buffalo Damper Clips.....40&10%
Crown Damper.....40%
Excelsior.....40&10%

Diggers, Post Hole, &c.—

Samson post Hole Digger, ₱ doz., $36.00 25%
Fletcher Post Hole Augers, ₱ doz., $36.00, 20%
Eureka Diggers.... ₱ doz., $12.50@$14.00
Leed's.....₱ doz., $8.00@$9.00
Vaughan's Post Hole Auger, ₱ doz., $13.00@$14.00
Kohler's Little Giant.....₱ doz., $18.00
Kohler's Hercules.....₱ doz., $15.00
Kohler's New Champion....₱ doz., $9.00
Scheidler.....₱ doz., $18.00
Ryan's Post Hole Diggers..₱ doz., $24.00
Cronk's Post Bars, ₱ doz., $60.00, 50&5@50&10%
Gibb's Post Hole Digger.....₱ doz., $15.00
Imperial.....₱ doz., $15.00
Shimer's Hollow Handle..₱ doz., $24.00, 50%

Dividers—See *Compasses.*

Dog Collars—See *Collars, Dog.*

Door Springs—
See *Springs, Door.*

Drawers.

Money, ₱ doz.....$18@$20

Drawing Knives—
See *Knives, Drawing.*

Drills and Drill Stocks—

Blacksmiths'.....each $1.75
Blacksmiths' Self-Feeding, each $7.50, 20%
Breast, P. S. & W.....40&10%
Breast, Wilson's.....30&5%
Breast, Millers Falls.....each $3.00, 25%
Breast, Bartholomew's....each $2.50 25&10%@40%
Ratchet, Merrill's.....20@20&5%
Ratchet, Ingersoll's.....25%
Ratchet, Parker's.....20@20&5%
Ratchet, Whitney's.....20&10%
Ratchet, Weston's.....20@25%
Ratchet, Moore's Triple Action....25@30%
Ratchet, Curtis & Curtis.....30%
Whitneys Hand Drill, Plain, $11.00; Adjustable, $12.00.....30&10%
Wilson's Drill Stocks.....10%
Automatic Boring Tools.....$1.75@$1.85
Chicopee Automatic Drill .....20&10%

Twist Drills—

Cleveland.....50&10&5%
Diamond, W. & B.....50&10&5%
Graham's Pat. Groove Shank..50&10&5%
Morse.....50&10&5%
New Process.....50&10&5%
Standard.....50&10&5%
Syracuse (Meta list).....&10%

Drill Bits or Bit Stock Drills—See *Augers and Bits.*

Drill Chucks—See *Chucks.*

Dripping Pans—
See *Pans, Dripping.*

Drivers, Screw—

Douglass Mfg. Co.....20@20&10%
Disston's.....50%
Buck Bros.....30%
Stanley R. & L. Co.'s
No. 64, Varnished Handles.....65&10%
No. 86.....70&10%
Sargent & Co.'s
No. 1, Forged Blade.....60&10&10%
Nos. 20, 40 and 60.....60%&10&10%
P. S. & W.....70%
Knapp & Cowles
No. 1.....60&20@70%
No. 2.....60&10&10@70&5%
No. 3.....60&5@60&10%
Nos. 4 and 00, Acme and Ideal..50&5@50&10&5%
Stearns'.....25&10&5%
Gay & Parsons.....35%
Champion.....25&10%
Clark's Pat.....30@33⅓%
Crawford's Adjustable.....30%
Ellrich's Socket and Ratchet..25@25&10%
Allard's Spiral, new list.....25%
Kolb's Common Sense..₱ doz., $6.00, 25&10%
Syracuse Screw-Driver Bits.....30&30&5%
Screw Driver Bits.....₱ doz., 50@75¢
Screw Driver Bitts, Parr's..₱ gross, $6.25
Fray's Hol. H'dle Sets...No. 3, $12.00, 45%
P. S. & Co.'s All Steel.....50%
Cincinnati.....25&10%
Brace Screw Drivers.....25&10%
Buck Bros.' Screw Driver Bits....27½&5%
Goodell's Automatic.....50%
Mayhew's Black Handle.....50%
Mayhew's Monarch.....45&10%

Egg Beaters—See *Beaters, Egg.*

Egg Poachers—
See *Poachers, Egg.*

Electric Bell Sets—
See *Bells, Electric.*

Emery—No. 4 to No. 54 to Flour, CF.

	46 gr.	150 gr.	F.FF.
Kegs, ₱ lb.....	4½¢	5 ¢	2½¢
½ kegs, ₱ lb...	4¾¢	5¼¢	2¾¢
¼ kegs, ₱ lb...	5 ¢	5½¢	3 ¢
10-₱ cans, 10 in case..	6 ¢	6¼¢	5 ¢
10-lb cans, less than 10.....	10 ¢	10 ¢	¢

Enameled and Tinned Ware—See *Ware, Hollow.*

Escutcheon Pins—
See *Pins, Escutcheon.*

Escutcheons—

Door Lock....Same dis. as Door Locks.
Brass Thread.....60&60&10%
Wood.....25%

Expanded Metal—
List No. 5.

Lathing.....10%
Fencing, Painted Sheets.....20%
Netting, Painted Sheets.....20%
Door Mats, Galvanized.....25%
Window Guards, Paneled.....15%
Tree Guards, Paneled.....15%

Extractors, Lemon Juice
—See *Squeezers, Lemon.*

Fasteners, Blind—

Mackrell's, ₱ doz., $1.00.....20@20&10%
Van Sand's Screw Pat, $15 ₱ gr.. 60&10%
Van Sand's Old Pat., $15 ₱ gr.....55&10%
Austin & Eddy No. 2008.....₱ gr., $9.00
Security Gravity.....₱ gr., $9.00
Zimmerman's.....45%

Faucets—

Fenn's.....40%
Bohren's Pat. Rubber Ball.....25%
Fenn's Cork Stops.....33⅓%
Star.....60%
Frary's Pat. Petroleum.....40&5&2%
B. & L. B. Co.
West's Lock, Open and Shut Key...50%
Star, Metal Plug, new list.....40%
Lockport, Metal Plug, reduced list..60%
Metallic Key, Leather Lined....60&10&
Cork Lined.....70&5&70&10%
Burnside's Red Cedar.....50%
Burnside's Red Cedar, bbl. lots....50&10%
John Sommers'
Peerless Best Block Tin Key.....40%
IXL, 1st quality, Cork Lined.....50%
Diamond Lock.....40%
Perfection, Fla. Red Cedar.....50%
Good Enough Cedar.....50%
Boss Metallic Key.....50%
Reliable Cork Lined.....60%
Western Pattern Cork Lined.....50%
Self Measuring
Enterprise, ₱ doz., $36.00.....20&10%
Lane's ₱ doz., $36.00.....25&10%
Victor.....₱ doz., $36.00 25&10%

Felloe Plates—
See *Plates, Felloe.*

Fifth Wheels—

Derby and Cincinnati.....45&5%
Brewster.....50&5%

Files—

Domestic—

Nicholson Files, Rasps, &c....60&10@ 60&10&5%
Nicholson (X.F.) Files.....25%
Nicholson's Royal Files (Seconds)....75%
(extra prices on certain sizes.)
American.....60&10&5@60&10&10%
G. & H. Barnett (Black Diamond) 60&10@60&10&5%
Arcade.....60&10@60&10&10%
Eagle.....60&10&5@60&10&10%
Other makers, best brands,60&10@60&20%
Fair brands.....60&10&10@70&5%
Second quality.....70&10@75&10%
Heller's Horse Rasps.....50&7½@50&10%
McCaffrey's Horse Rasps.....50&10%
Chelsea Horse Rasps, Hand Cut..50&10%
Arcade Horse Rasps.....60&10%

Imported—

Butcher.....Butcher's list, 20%
Stubs .....Stubs list, 25@30%

Fixtures, Grindstone—

Sargent's Patent.....70&10%
Reading Hardware Co.....30&10%
P., S. & W. Co.....50&10%

Fluting Machines—
See *Machines, Fluting.*

Fluting Scissors—
See *Scissors, Fluting.*

Fodder Squeezers—
See *Squeezers, Fodder.*

Forks—

Hay, Manure, &c....Asso. List, 70@70&5%
Hay, Manure, &c., Phila. List, 60@60&10%
Plated, see Spoons.

Frames—

Saw—

White Vermont.....₱ gro., $9.00@$10.00
Red, Polished and Varnished....₱ doz., $1.50, 25%

Screen, Window and Door—

Porter's Pat. Window and Door Frame, 33⅓&10%
Warner's Screen Corner Irons....33⅓@ 33⅓&10%
Stearns' Frames and Corners..25@25&10%
Cortland.....40@40&5

Freezers, Ice Cream—

White Mountain.....60@60&5%
Granite State.....65@65&5%
Arctic.....70@70&5%
American.....60%
Buffalo Champion.....65@65&5%
Shepard's Lightning.....65@65&5%
Gem.....65%
Blizzard.....70%
Double Action Crown.....60%
Crown.....60%
Star.....60%
Peerless.....60&10%
Giant.....60%
Zero.....60&10&10%
Boss and Pet.....60&10&10&10%
Keystone, P., D. & Co., each, $1.50....20%
Standard.....60@60&5%
Standard Double Action.....60@60&5%
Expert.....65@65&5%
Model.....60@60&5%
Confectioners' Machine.....50%

Fruit and Jelly Presses—
See *Presses, Fruit and Jelly.*

Fry Pans—See *Pans, Fry.*

Funnels—

Gersdorff's Perfection, Standard and Globe; *Tin*, 1 gro., 10%; 2 to 5 gro., 20%; 5 to 10 gro.....30%
Copper, 1 to 6 doz., 15%; 6 to 12 doz., 20%; over 12 doz.....25%

Furnaces, Soldering—

Burgess No. 3 Gem, tin reservoir....$7.00
Burgess No. 3 Gem, Copper reservoir.$8.50

Fuse—Dis. 12½%. ₱ 1000 ft

Common Hemp Fuse, for dry ground..$2.70
Common Cotton Fuse, for dry ground 2.85
Single Taped Fuse, for wet ground.. 3.85
Double Taped Fuse, for very wet gr.. 4.80
Triple Taped Fuse, for very wet gr.. 5.60
Small Gutta Percha Fuse, for water. 7.50
Large Gutta Percha Fuse, for water.12.00

Gates, Molasses—

Stebbin's Pattern.....80@80&5%
Stebbin's Genuine.....60&10&10%
Stebbin's Tinned Ends.....40&10%
Chase's Hard Metal.....50&10%
Bush's.....20%
Lincoln's Pattern.....70@70&10%
Weed's.....20&10%
Boss, ₱ doz.:
No. 1, $7; No. 2, $8; No. 3, $9; No. 4, $10.....60&10&10%

Gauges—

Marking, Mortise, &c.....60&10%
Starrett's Surface, Center and Scratch. 25&10%
Stanley R. & L. Co.'s Butt and Rabbet Gauge.....20&10%
Hoague & Peck's Champion Gauge—
With Scale.....₱ doz , $5.00
Without Scale.....₱ doz., $4.00
Wire, Wheeler, Madden & Co.....10%
Wire, Morse's.....25%
Wire, Brown & Sharpe's.....10@20%
Wire, P., S. & W. Co.....10&10%

Gimlets—

Nail and Spike.....50&10&5%
Eureka Gimlets.....40&10%
Diamond Gimlets.....₱ gr $5.00
Double Cut, Shepardson's.....45@45&5%
Double Cut, Ives'.....60@60&5%
Double Cut, Douglass'.....40&10%

Glue —

Le Page's Liquid.....25@25&5%
Upton's Liquid.....35%
Improved Process.....25@25&5%
Dodd's Liquid Glue.....25@25&5%

Glue Pots—See *Pots, Glue.*

Grease, Axle—

Fraser's.....Keg ₱ lb 4¢, Pail ₱ lb 5¢
Fraser's, in boxes.....₱ gr $9.50
Dixon's Everlasting, in bxs..₱ doz 1 lb $1.20; 2 lb $2.00
Dixon's Everlasting....10-lb pails, ea. 85¢
Lower grades, special brands, ₱ gr $5.50@$7.00

Grindstones—

Small, less than car load lots at quarry.....₱ ton $9.00 @ $10.00
Family, regular list.....60%
Family, Cleveland Stone Co.....20%

Grindstone Fixtures—
See *Fixtures, Grindstone.*

Gun Powder—See *Powder.*

Hack Saws—See *Saws.*

Hafts, Awl—

Sewing, Brass Fer. ₱ gr $3.50.....45&10%
Pat. Sewing, Short.$1.00 ₱ doz....40&10%
Pat. Sewing, Long.....₱ doz $1.20
Pat. Peg, Plain Top.₱ gr $10.00...45&10%
Pat. Peg, Leather Top.₱ gr $12.00.45&10%

Halters—

Covert's, Rope, Jute.....60&10&10&2%
Covert's Rope, 7-16-in., Jute.....70&2%
Covert's Rope, ½-in., Hemp.....50&2%
Covert's Adj. Rope Halters.....40&2%
Covert's Hemp Horse and Cattle Tie, 50&2%
Covert's Jute Horse Ties.....70&2%
Covert's Jute Cattle Ties.....70&10&2%
Covert's Adj. Web Halters.....35&5&2%
E. Covert Mfg. Co.'s Halters.....33⅓%
E. Covert Mfg. Co.'s Horse and Cattle Ties.....33⅓%

Hammers—

Handled Hammers—

Maydole's, list Dec. 1, '85.....25&10@35%
Buffalo Hammer Co.
Humason & Beckley.....
Atha Tool Co.
Verree.....50&10 %
C. Hammond & Son.....40&10@—%
Fayette R. Plumb.
Artisans' Choice, A. E. Nail.....40&10%
Regular Y. & P., A. E. Nail.....50%
Horseshoe Turning Hammers.....50%
Other Hammers.....50&10%
Cheney's Claw.....40&10%
Cheney's Machinist's & Riveting...50&5%
Hartford, Nail Hammers.....40&10%
Hartford, Machinists, &c.....50&5&50&10%
Magnetic Tack, Nos. 1, 2, 3, $1.25, 1.50 & 1.75.....30&10%
Nelson Tool Works.....40&10%
Warner & Nobles, new list.....25&10
Peck, Stow & Wilcox.....40&10@50%
Sargent's.....40@40&10%

Heavy Hammers and Sledges—

3 ℔ and under.....₱ ℔ 40¢
3 to 5 ℔.....₱ ℔ 36¢ } 75%
Over 5 ℔.....₱ ℔ 30¢
Wilkinson's Smiths.....10½¢@11¢ ₱ ℔

Handcuffs and Leg Irons

—See *Police Goods.*

Handles—

Cross-Cut Saw Handles—

Atkins' No. 1 Loop, ₱ pr., 28¢; No. 3, 18¢; No. 6, 15¢; No. 2 and No. 4, Reversible, 18¢.
Champion.....15%

Iron, Wrought or Cast—

Door or Thumb.

Nos.	0	1	2	3	4
Per doz.	$0.90	1.00	1.10	1.35	1.50

60&10&10%

Roggin's Latches.....₱ doz 30¢@35¢
Bronze Iron Drop Latches..₱ doz 70¢ net
Jap'd Store Door Handles—Nuts, $1.62; Plate, $1.10; no plate, $0.88.....net
Barn Door, ₱ doz $1.40.....10&10%
Chest and Lifting.....70%

Wood—

Saw and Plane.....40&10@40&10&5%
Hammer, Hatchet, Axe, &c.....40@40&5%
Brad Awl.....₱ gr $2.00
Hickory Firmer Chisel, ass'd. ₱ gr 4.50
Hickory Firmer Chisel, large. ₱ gr 5.00
Apple Firmer Chisel, ass'd...₱ gr 5.00
Apple Firmer Chisel, large...₱ gr 6.00
Socket Firmer Chisel, ass'd. ₱ gr 3.00
Socket Framing Chisel, ass'd. ₱ gr 5.00
J. B. Smith & Co.'s Pat File.....50%
File, assorted.....₱ gr 2.75 }
Auger, assorted.....₱ gr 5.00 } 50%
Auger, large.....₱ gr 7.00 }
Pat. Auger, Ives'.....30&10%
Pat. Auger, Douglass.....₱ set $1.25
Pat. Auger, Swan's..₱ set $1.00
Hoe, Rake, Shovel, &c.....50&10%

Hangers—

Barn Door, old patterns...60&10&10@70%
Barn Door, New England..60&10&10@70%
Samson Steel Anti-Friction.....55%
Orleans Steel.....55%
Hamilton Wrought Steel Track.....55%
U. S. Wood Track.....65%
Champion.....60&10%
Rider and Wooster, Medina Mfg. Co.'s list.....70%
Climax Anti-Friction.....55%
Climax Anti-Friction for Wood Track.55%
Zenith for Wood Track.....55%
Reed's Steel Arm.....50%
Challenge, Barn Door.....50%
Sterling.....50@50&10%
Victor, No. 1, $15.00; No. 2, $10.50; No. 3, $18.00.....50&2%
Cheritree.....50&10%
Kidder's.....40&10@50%
Boss.....60&10%
Best Anti-Friction.....60&10%
Duplex (Wood Track).....60&10&5%
Terry's Pat., ₱ doz pr. 4 in., $10.00; 5 in. $12.00.....50&10%
Terry's Steel Anti-Friction Leader.50&10%
Terry's Steel Anti-Friction Ideal..50&10%
Cronk's Patent, Steel Covered.....50&5%
Wood Track Iron Clad, ₱ ft. 10¢.....50 &15@60%
Carrier Steel Anti-Friction.....50&10%
Architect, ₱ set $6.00.....20%
Eclipse.....20&10%
Felix, ₱ set $4.50.....20%
Richards'.....30@30&10%
Lane's New Standard.....50@50&5%
Lane's Standard.....50&5@50&10%
Lane's Parlor.....40%
Ball Bearing Door Hanger.20&10@25&10%
Warner's Pat.....20&10@20&10&10%
Stearns' Anti-Friction..20&10@20&10&10%
Stearns' Challenge.....25&10@25&10&10%
Faultless.....40@40&5%
American, per set $6.00.....20&10%
Rider & Wooster, No. 1, 62½¢; No. 2, 75¢.....40%
Paragon, Nos. 1, 2 and 3.....40&10%
Cincinnati.....25&10%
Paragon, Nos. 5, 5¼, 7 and 8.....20&10%
Crescent.....60@60&10%
Nickel, Cast Iron.....50%
Nickel, Malleable Iron and Steel.....40%
Scranton Anti-Friction Single Strap.33⅓%
Wild West, 4 in. Wheel, $15.00; 5 in. Wheel, $21.00.....45%
Star.....40&10%@40&10&5%
May.....50&5@50&10%
Barry, $6.00.....40&10%
Interstate.....50%
Magic.....45%
Pendulum, Payson's.....40%
Moody.....45%

Harness Snaps—See *Snaps.*

Hatchets—

American Axe and Tool Co.
Blood's.....
Hunt's.....
Hurd's.....
Mann's.....
Peck's.....
Underhill's..... } 40 & 10 @ 50&5%
Buffalo Hammer Co.....
Fayette R. Plumb.....
C. Hammond & Son.....
Kelly's.....
Sargent's & Co.....
P., S. & W. Co.....
Ten Eyck Edge Tool Co.....
Collins.....10%
Schulte, Lohoff & Co.....50@50&5%

Hay and Straw Knives—

See *Knives.*

Hinges—

Blind Hinges—

Parker.....75&2%
Huffer.....50%
Clark's, Nos. 1, 3, 5, 40 and 50 75&10&5@80%
Clark's Mortise Gravity.....50%
Sargent's, Nos. 1, 3, 5, 11, 13.....75%
Sargent's, No. 12.....77&10&10%
Reading's Gravity.....75&10@75&10&5%
Shepard's.
Noiseless.....75&10%
Niagara.....80%
Buffalo.....80%
Clark's Genuine Pattern.....80%
O. S., Lull & Porter.....75&10%
Acme, Lull & Porter.....75%
Queen City Reversible....70&10&5@75%
Clark's, Lull & Porter, Nos. 0, 1, 1½, 2, 2½, 3.....75&10&2½%
North's Automatic Blind Fixtures, No. 2, for Wood, $9.00; No. 3, for Brick, $11.50.....10%

Gate Hinges—

Western.....₱ doz $4.40, 60%
N. E.....₱ doz $7.00, 55%
N. E. Reversible.....₱ doz $5.20, 55&10%
Clark's, Nos. 1, 2, 3.....60&10&5%
N. Y. State.....₱ doz $5.00, 55&10%
Automatic.....₱ doz $12.50, 50%
Shepard's.....60&10&5%

Spring Hinges—

Geer's Spring and Blank Butts.....40%
Union Spring Hinge Co.'s list, March, 1886.....20%
Barker's Double Acting.....25%
Union Mfg. Co.....25%
Bommer's.....30%
Buckman's.....15&20%
Chicago.....30%
Bardsley's Patent.....40%
Acme.....30%
U. S.....25&10%
Empire and Crown.....20%
Hero and Monarch.....55%
American, Gem and Star.....20%
Oxford.....20%
Wiles'.....10%
Devore's.....40%
Rex.....40%
Royal.....60%
Reliable.....60%
Champion.....60%
Stearns'.....50&10%
Samson, ₱ gross.....$14.00)

Extra 5 @ 10 % often given.

Wrought Iron Hinges—

List February 14, 1891.

Strap and T.....50&10&5%
Corrugated Strap and T.....50&10&5%
Screw Hook and Strap... { 6 to 12 in., ₱ ℔.. 4¢ / 14 to 20 in., ₱ ℔..3½¢ / 22 to 36 in., ₱ ℔.. 3¢
Screw Hook and Eye.... { ½ in., ₱ ℔ 7¾¢ / ⅝ in., ₱ ℔ 5¾¢ / ¾ in., ₱ ℔ 4¾¢
Rolled Blind Hinges, Nos. 32 and 34 50&10%
Rolled Blind Hinges, Nos. 232 and 234 55&10%
Rolled Plate.....70&10%
Rolled Raised.....70&10¢
Plate Hinges { 8, 10 & 12 in., ₱ ℔.....5¢ / "Providence" over 12 in. ₱ ℔.....4¢

Hoes—

Eye—

D. & H. Scovil.....20%
Lane's Crescent, Planters' Pattern.45&5%
Lane's Razor Blade, Scovil Pattern...30%
Maynard, S. & O. Pat.....45&5%
Sandusky Tool Co., S. & O. Pat.
Am. Axe and Tool Co., S. & O. Pat. } 70&70& 5%
Chattanooga Tool Co., S. & O. Pat..60& 5&60&10%
Grub.....60&10%

Handled—

Garden, Mortar, &c.....70%
Planter's, Cotton, &c.....70%
Warren Hoe.....60%
Magic.....₱ doz $4.00

Hog Rings and Ringers—

See *Rings and Ringers—*

Hoisting Apparatus—

See *Machines, Hoisting.*

Hollow-Ware—

See *Ware, Hollow.*

Holders—

Bag—

Sprengle's Pat.....₱ doz $18....60%

Bit—

Extension.
Barber's, ₱ doz $15.00.....40@40&10%
Ives, ₱ doz $20.00.....60&5@60&10%
Diagonal.....₱ doz $24.00, 40%
Angular.....₱ doz $24.00, 40&5%

File and Tool—

Balz Pat.....₱ doz $4.00, 25%
Nicholson File Holders.....20%
Dick's Tool Holder.....20%

Hooks—

Cast Iron—

Bird Cage, Sargent's List.... } 60&10&10%
Bird Cage, Reading.... }
Clothes Line, Sargent's list 60&10@60&10&10%
Ceiling, Sargent's list.....55&10&10%
Harness, Reading list..55&10@55&10&10%
Coat and Hat, Sargent's list. 55&10@60&10%
Coat and Hat, Reading. 50&10@50&10&10%

Wrought Iron—

Cotton.....₱ doz $1.25
Cotton Pat. (N. Y. Mallet and Handle W'ks.....30%
Tassel and Picture, T. & S. Mfg.Co....50%
Wrought Staples, Hooks, &c. See Wrought Goods.

Wire—

Wire Coat and Hat, Gem, list April, 1886.....60@60&10
Wire Coat and Hat, Miles, list April, 1886.....50@50&10%
Indestructible Coat and Hat...45@45&5%
Wire Coat and Hat, Standard..60@60&10%
Handy Hat and Coat.....50&10@60%
Steady Ceiling Hooks.....50&10@60%
Belt.....80@80&10%
Atlas, Coat and Hat.....60@60&10%
Williamson's Bird Cage Hooks, List April, 1892.....40%
Bright Wire Goods—See Wire.

Miscellaneous—

Grass, No. 2, $2.00; No. 3, $2.25; No. 4, $2.50
Nolin's Grass.....₱ doz $2.25
Bush.....55@60%
Whiffletree—Patent.....55%
Hooks and Eyes—Malleable Iron. 70@70&10%
Hooks and Eyes—Brass.....60&10&10%
Fish Hooks, American.....50%
Bench Hooks—See Bench Stops.

Horse Nails—See *Nails, Horse*

Horse Shoes—

See *Shoes, Horse.*

Hose, Rubber—

Competition.....75@75&10&5%
Standard.....60&10&10@70&10%
Extra.....60@60&10%
N. Y. B. & P. Co., Para.....25&5%
N. Y. B. & P. Co., Extra.....40@40&5%
N. Y. B. & P. Co., Dundee.....50&10@60%

Huskers—

Blair's Adjustable.....₱ gr $8.00
Blair's Adjustable Clipper.....₱ gr 7.00
Hubbard's Solid Steel.....₱ gr 4.50

Indurated Fiber Ware—

See *Ware, Indurated Fiber.*

Irons.

Sad—

From 4 to 10, at factory....₱ 100 ℔, $2.30@$2.40
Self-Heating.....₱ doz $9.00
Self-Heating, Tailors'.....₱ doz $18.00
Mrs. Pott's Irons.....60@60&10%
Enterprise Star Irons.....60@60&10%
XX Cold Handle Sad Iron.....60@60&10%
Ideal Irons, new list...50&10@50&10%
Salamander Irons.....25%
B. B. Sad Irons, ₱ ℔.....3@3¼¢
Combined Fluter and Sad Iron, ₱ doz. $15.00.....15%
Fox Reversible Self-Fluter, ₱ doz..$24.00
Chinese Laundry (N.E.Butt Co.).8½¢, 15%
New England.....5¢, 15%
Mahony's Troy Pol. Irons.....25%
Sensible, list Jan. 91.....50&10&5%
Sensible Tailor's Irons.....33⅓%
National Self-Heating.....50%

Soldering—

Soldering Coppers.....₱ ℔ 19@21¢
Covert's Adjustable, list Jan. 1, 1886, 35&2%

Pinking—

Pinking Irons, ₱ doz., 65¢.

Jack Screws—See *Screws.*

Jacks, Wagon—

Daisy.....33⅓%
Victor.....33⅓%
Lockport.....40%

Kettles—

Brass, Spun, Plain, list Jan. 1, '91..25&5%
Brass, Spun, Pld.W.M.list Jan. 1, '91..20%
Enameled and Tea—See *Ware, Hollow.*

Keys—

Lock, Ass'n list Dec. 30, 1886.50&10@ 60&5%
Eagle, Cabinet, &c.....33⅓&2%
Hotchkiss' Brass Blanks.....40%
Hotchkiss' Copper and Tinned.....40%
Hotchkiss' Pad. and Cab.....35%
Ratchet Bed Keys.....₱ doz. $4.00, 15%
Woilensak Tinned.....50&10%

Knife Sharpeners—

See *Sharpeners, Knife.*

Knives—

Butcher, Shoe, &c.

Wilson's Butcher Knives, List Dec 8, 1890.....25%
Ames' Butcher Knives.....25%
Foster Bros.' Butcher, &c.....40%
Jordan's AA A1 Butchers', list.....net
Nichols' Butcher Knives.....40&10%
W. W. Wilson, Butcher, 6 in.. $2.00; 7 in., $2.70; 8 in., $3.80, &c.
Ames' Shoe Knives.....20@25%
Ames' Bread Knives, ₱ doz $1.50, 15@20%
Moran's Shoe and Bread.....20%
Hay and Straw—See Hay Knives.
Table and Pocket—See Cutlery.

Corn—

Auburn Mfg. Co. Western Pat.....$2.00
Auburn Mfg. Co. Crescent.....$3.50
Bradley's.....10%
Wadsworth's.....25%

Drawing—

Witherby..... }
P., S. & W..... } .....75@75&10%
Mix..... }
New Haven..... }
Merrill.....60&10@60&10&5%
Douglass.....75&75@5%
Watrous.....15&10@25%
L. & I. J. White.....20&5%
Bradley's.....35%
Adjustable Handle.....25@33⅓%
Wilkinson's Folding.....25@25&5%

Hay and Straw—

Lightning, from jobbers....$8.00@$9.00
Wadsworth's.....40&7½@40&10%
Carter's Needle...₱ doz. $11.00@$12.50
Heath's.....₱ doz. $13.00@$13.50
Auburn Hay, Com. and Spear Point..50%
Auburn Straw.....40%
Nolin's Hay.....₱ doz. $7.00@$8.00%

Mincing—

Am. (2d quality), ₱ gr., 1 blade, $7; 2 blades, $12; 3 blades, $18.....net
Lothrop's.....20&10%
Smith's, ₱ doz., Single, $2; Double $3 40@45%
Knapp & Cowles.....50&10@60%
Buffalo Adjustable.....₱ doz. $3.00, 25%
Buffalo Double Adjustable.. ₱ doz. $3.00, 25%

Knobs—

Door, Mineral.....60@65%
Door, Por. Jap'd.....70@75%
Door, Por. Nickel.....$2.00@$2.25
Door, Por. Plated Nicke..l....$2.00@$2.25
Drawer, Porcelain.....60@10@60&10&10%
Hemacite Door Knobs.....40&10@50%
Yale & Towne Wood, list Dec., 1885...40%
Furniture Plain.....75¢ gro inch, 10%
Furniture, Wood Screws.....25&10%
Base, Rubber Tip.....70&10&5%
Picture, Judd's.....60&10&10@70%
Picture, Sargent's.....70&10%
Picture, Hemacite.....35&5%
Shutter, Porcelain.....65&10
Carriage, Jap.....₱ gro 80¢, 60&10%
Bardsley's Wood Door, Shutter, &c...40%

Ladles—

Melting, Sargents'.....55&10%
Melting, Reading.....35&10%
Melting, Monroe's Pat...₱ doz $4.00, 40%
Melting, P., S. & W.....35&10&40%
Melting, Warner's.....30%

Lanterns—

Tubular—

Regular, with Guard.....₱ doz $3.50
O. K., with Guard.....₱ doz $3.75
Side Lift, with Guard.....₱ doz $4.00
Square Lift, with Guard.....₱ doz $4.25
Anti-Friction, with Guard.....₱ doz $4.50
Brass Plated, Sq. Lift, Guard..₱ doz $5.50
Cop. Plated, Sq. Lift, Guard..₱ doz $5.50

Police Lanterns—

2¾-inch Bull's-eye Police regular..... ₱ doz $3.60
3-inch Bull's-eye Police regular..... ₱ doz $3.90
2¾-inch Bull's-eye Police flash light..... ₱ doz $4.00
3-inch Bull's-eye Police flash light..... ₱ doz $4.50

Lawn Mowers—

See *Mowers, Lawn.*

Leaders, Cattle—

Humason, Beckley & Co.'s.....70%
Sargent's.....60%&10%
Hotchkiss.....50%
Peck, Stow & W. Co.....60&10%

Lemon Squeezers—

See *Squeezers, Lemon.*

Lifters, Transom—

Wollensak's:
Class 3 and 4, Bronzed Iron.....50%
Class 3 and 4, Bronze Metal.....25%
Class 3 and 4, Brass.....35%
Skylight Lifters.....35%
Crown, Eagle and Shield.....50%
Reiher's, list Feb. 20, 1891.
Bronzed Iron Rods.....50&10&10&2%
Brass, Real Bronze or Nickel Plate..30%
Excelsior.....50&10&2%
Shaw's.....50&10%
Payson's:
Universal.....60%
Solid Grip.....60&10%
Imperial.....50&10%

Lines—

Cotton and Linen Fish, Draper's.....50%
Draper's and Tate's Chalk.....60%
Draper's Masons' Linen, 84 ft., No. 1, $1.25; No. 2, $1.75; No. 3, $2.25; No. 4, $2.75; No. 5, $3.25.....25%
Cotton Chalk.....55%
Samson Cotton, No. 4, $2; No. 4½, $2.50; 10%
Silver Lake, Braided, No. 0, $6.00; No. 1, $6.50; No. 2, $7.00; No. 3, $7.50 ₱ gro.....25%
Mason's Linen, No. 3½, $1.50; No. 4, $2.00; No 4½, $2.50.
Mason's Colored Cotton.....45%

Wire Clothes..Nos.	18	19	20
100 ft.....	$3.50	$3.00	$2.50

Ventilator Cord, Samson Braided, White or Drab Cotton..₱ doz $7.50..20%
Ossawan Mills, Chalk, Twisted, 90%; Chalk, Soft Braided, 50% Chalk, Braided, 25%.

Links, Open—

Terry's—per gro.:

Nos.....	1	2	3	4
	$6.00	8.00	12.00	16.00

Locks, &c.—

Cabinet—

Eagle, Gaylord Parker and Corbin... { List March, '84, rev. Jan. 1, '85.33⅓&2%
Deitz, Nos. 26 to 39.....40%
Deitz, Nos. 51 to 63.....40&10%
Deitz, Nos. 87 to 96.....30%
Stoddard Lock Co.....30@33⅓%
"Champion" Night Latches.....40%
Barnes Mfg. Co.....40@40&10%
Eagle and Corbin Trunk.....25&2%
"Champion" Cab. and Combin...33⅓%
Yale.....net prices
Romer's.....25%

Door, Locks, Latches, &c.—

R. & E. Mfg. Co., list Mar.20, 1889..... } 65&10@70%
Mallory, Wheeler & Co., list July, '88..... } Much lower net prices often made.
Sargent & Co., List Aug.1,'88 }
Reading Hardware Co., list Feb. 2, '88..... }
Branford Lock Works .. }

Brittan, Graham & Mathes, list Jan. 1890.....60&10&10%
Perkins' Burglar Proof.....60&25%
Plate.....33⅓&2%
Barnes Mfg. Co.....40@40&10%
Yale.....net prices
Deitz Flat Key.....30%
L. & C. Round Key Latches.....30&10%
L. & C. Flat Key Latches.....33⅓&10%
Romer's Night Latches.....15%
Brooklyn Latches.....50&10%
Shepardson or U. S.....35%
Seed's N. Y. Hasp Lock.....25%

Padlocks—

List June'10, 1891.....50&2%
Norwich Lock Mfg. Co., old list.....70&2%
Yale Lock Mfg. Co.'s.....net prices
Eagle.....25&2%
Eureka, Eagle Lock Co.....40&2%
Romer's, Nos. 0 to 91.....30%
Romer's Scandinavian, &c., Nos. 100 to 505.....15%
A. E. Deitz.....40%
Champion Padlocks.....40%
Hotchkiss.....30%
Star.....60%
Horseshoe.....₱ doz $9, 10@40&10%
Barnes Mfg. Co.....40@40&10%
Nock's.....30%
Brown's Pat.....25%
Scandinavian.....90&25%
E. T. Fraim's Keystone Scandinavian, Nos. 119, 120, 130 and 140.....90&10%
Other Nos.....65
Ames Sword Co. up to No. 150.....40%
Ames Sword Co. above No. 150.....50%
Slaymaker, Barry & Co.
No. 1010 line.....85&5%
No. 41 line.....45&10%
No. 61 line.....50&5%
No. 21 line.....75%

Sash, &c.—

Clark's No. 1, $10; No. 2, $8 ₱ gr.....33⅓%
Ferguson's.....33⅓%
Victor.....60&10&2%
Walker's.....10%
Attwell Mfg. Co.....25&33⅓%
Reading.....60%&10@60%&10&10%
Hammond's Window Springs.....40%
Common Sense, Jap'd, Cop'd and Br'zed.....₱ gr $4.00
Common Sense, Nickel Plated.....₱ gr $10.00
Universal.....30%
Kempshall's Gravity.....60%
Kempshall's Model.....60@60&10%
Corbin's Daisy, list Feb. 15, 1886.....70%
Payson's Perfect.....60&10%
Hugunin's Sash Balances.....25&5&2%
Hugunin's New Sash Locks.....25&5&2%
Stoddard's "Practical".....10%
Ives' Patent.....60&10@60&10&5%
Fish (Liesche's pat.), No. 100, ₱ gr., $8; No. 105, ₱ gr., $10.....40%
Davis, Bronze, Barnes Mfg. Co.....50%
Champion Safety, list January, 1889..70%
Security.....70%
Giant, list Jan., 1892.....70&5%
Wolcott's.....60&10&5%
Monarch.....50%

Lumber Tools—

See *Tools, Lumber.*

Lustro—

Four-ounce bottles.....₱ doz, $1.75; ₱ gross.....$17.00

Machines.

Boring—

	Without Augers.	Upright.	Angular.	
Douglas	$5.50	$6.75		50%
Snell's, Rice's Pat...	5.50	6.75,10&10&10%		
Jennings'	5.50	6.75,45@45&10%		
Other Machines..	2.25	2.75		
Phillips' Patent with Augur	7.00	7.50		
Miller's Falls	7.50			25%

Fluting—

Knox, 4¼-inch Rolls.....$3.25 each } 35%
Knox, 6-inch Rolls.....3.60 each }
Eagle, 3¼-inch Rolls, $2.15.....35%
Eagle, 5¼-inch Rolls, $2.85.....35%
Crown, 4½ in., $3.50; 6 in., $4.00; 8 in., $6.50 each.....35%
Crown Jewel, 6 in.....$3.50 each, 35%
American, 5 in., $3.00; 6 in., $3.40; 7 in., $4.50 each.....35%
Domestic Fluter.....each, $1.50
Geneva Hand Fluter, White Metal, ₱ doz $12, 25%
Crown Hand Fluter, Nos. 1, $15.00; 2, $12.50; 3, $10.00.....30%
Shepard Hand Fluter, No. 85, per doz $15.30.....40%
Shepard Hand Fluter, No. 110, ₱ doz $11.00.....40%
Shepard Hand Fluter No. 95, ₱ doz $8.00.....40%
Clark's Hand Fluter, ₱ doz $15.00.....35%
Combined Fluter and Sad Iron, ₱ doz $15.00.....30%
Buffalo, ₱ doz $10.00.....10%

Hoisting—

Moore s Hand Hoist, with Lock Brake.20%
Moore's Differential Pulley Block.....40%
Emery's Mfg. Co.'s.....25%
Sure Grip Steel Tackle Blocks.....25%

Washing—

Anthony Wayne, ₱ doz, No. 1, $51; No. 2, $45; No. 3, $42.
Western Star, ₱ doz, No. 2, $45; No. 2 $48.
Weisell.....₱ doz $54.00
Fair and Square.....₱ doz $42.00

Mallets—

Hickory.....20&10@20&10&10%
Lignum vitæ.....20&10@20&10&10%
B. & L. Block Co., Hickory & L. V. 50@30&10%

Mattocks—Regular list.

60&10@60&10&5%

Measures—

ard Fiberware, No. 1, peck ₱ dozen, $4; ½-peck, $3.50.

Meat Cutters—

See *Cutters, Meat.*

Menders, Harness—

Per doz.....$2.00

Mills—

Coffee—

Box and Side, List, Jan. 1, 1888, 60@60&10%
Net prices are often made which are lower than above discount.
American, Enterprise Mfg. Co. 20&10@30%
The Swift, Lane Bros.....30%

Mincing Knives—

See *Knives, Mincing.*

Molasses Gates—

See *Gates, Molasses.*

Money Drawers—

See *Drawers, Money.*

Mowers, Lawn—

Philadelphia.....60&10%
Pennsylvania and Continental.....60%
New Model and Excelsior.....60@60&10%
Other Machines.....60&10&10@75%

Muzzles—

Safety.....₱ doz, $3.00, 25%

Nails.—

Cut and Wire. See Trade Report.
Wire Nails, Papered.
Association list, Apr. 11, '92..80&10&10%
Tack Mfrs.' list.....70@70&10%
Wire Nails, Standard Penny.
Card June 1, '89 base.....$1.85@$1.90

Horse—

	Nos. 6	7	8	9	10	
American	85¢	85¢	85¢	85¢	85¢	net
Ausable	28¢	26¢	25¢	24¢	23¢	40&5&5&2%
Clinton, Fin.	19¢	17¢	16¢	15¢	14¢	30&10%
Essex	28¢	26¢	25¢	24¢	23¢	40&10&5&2%
Lyra	19¢	17¢	16¢	15¢	14¢	40&5%
Snowden	19¢	17¢	16¢	15¢	14¢	40&5%
Vulcan	23¢	21¢	20¢	19¢	18¢	25%
Northwest'n.	25¢	23¢	22¢	21¢	20¢	25@25&5%
A. C.	25¢	23¢	22¢	21¢	21¢	25&10@33⅓&5%
C. B. K.	25¢	23¢	22¢	21¢	21¢	33⅓@33⅓&10%
Maud S.	25¢	23¢	22¢	21¢	21¢	40&10&5%
Champlain	28¢	26¢	25¢	24¢	23¢	40&5&5&2%
Saranac	23¢	21¢	20¢	19¢	18¢	40&5%
Champion	25¢	23¢	22¢	21¢	20¢	10&10&10%
Capewell	19¢	18¢	17¢	16¢	16¢	10%
Anchor	23¢	21¢	20¢	19¢	18¢	35%
Western	23¢	21¢	20¢	19¢	18¢	50%
Empire Bronzed						14 ₱ ℔

Picture—

Brass Head, Sargent's list.....60@60&10%
Brass Head, Combination list.....50&10%
Porcelain Head, Sargent's list.50&10&10%
Porcelain Head, Combination list.40&10%
Niles' Patent.....40%

Nail Pullers—See *Pullers, Nail.*

Nail Sets—See *Sets, Nail.*

Nut Crackers—

See *Crackers, Nut.*

Nuts—List Dec. 18, 1889.

	Square.	Hex.
Hot Pressed	5.35¢	5.95¢ off list
Cold Punched	5.00¢	5.10¢ off list

In packages of 100 ℔, add 1-10¢ ₱ ℔, net; in packages less than 100 ℔, add ½¢ ₱ ℔, net.

Oakum—

Best or Government.....₱ ℔ 6¾@7¼¢
U. S. Navy.....₱ ℔ 5¾@6¢
Navy.....₱ ℔ 5¢@5¼¢

Oilers—

Zinc and Tin.....65&10@70&5%
Brass and Copper.....50&10@50&10&5%
Malleable, Hammers' Improved, No. 1, $3.60; No. 2, $4.00; No. 3, $4.40 ₱ doz. 10@10&5%
Malleable, Hammers' Old Pattern, same list.....45%
Prior's Pat. or "Paragon" Zinc. 60&10&10%
Prior's Pat. or "Paragon" Brass.....50%
Olmstead's Tin and Zinc.....60%
Olmstead's Brass and Copper.....50%
Broughton's Zinc.....60%
Broughton's Brass.....50%
Gem, P., D. & Co.....₱ gro. $2
Steel, Draper & Williams.....50%

Openers, Can—

Messenger's Comet.....₱ doz $3.00, 25%
American.....₱ gross $2.75@$3.00
Duplex.....₱ doz 25¢, 15@20%
Lyman's.....₱ doz $3.75, 20%
No. 4, French.....₱ doz $2.25, 55@60%
No. 5, Iron Handle.....₱ gr $6.00, 45@50%
Eureka.....₱ doz $2.50, 10%
Sardine Scissors.....₱ doz $2.75@3.00
Star.....₱ doz $2.75
Sprague No. 1, $2.00; 2, $2.25; 3, $2.50; 50&10&10%
Excelsior, No. 1 $2.50; No. 2, $1.50.....40%
World's Best, ₱ gross, No. 1, $12.00; No. 2, $24.00; No. 3, $36.00.....50&10%
Universal, ₱ doz $3.00.....55&5%
Domestic, ₱ doz $2.00.....45%
Champion, ₱ doz $2.00.....50%

Packing, Steam—

Rubber—

Standard.....70@70&10%
Extra.....60@60&5%
N. Y. B. & P. Co., Standard.....50%
N. Y. B. & P. Co., Empire.....60%
N. Y. B. & P. Co., Salamander.....25%
Jenkins' Standard, ₱ ℔ 80¢.....25@25&5%

Miscellaneous—

American Packing.....10¢@11¢ ₱ ℔
Russia Packing.....14¢ ₱ ℔
Italian Packing.....13½@14¢ ₱ ℔
Cotton Packing.....15½@17¢ ₱ ℔
Jute.....7¢@8¢ ₱ ℔

Pails—

Galvanized—

	Quarts	10	12	14
Hill's Light Weight, ₱ doz.	$2.75	3.00	3.25	
Hill's Heavy Weight, ₱ dz.	3.00	3.25	3.75	
Heiwig's	2.50	2.75	3.00	
Sidney Shepard & Co.	2.35	2.85	3.05	
Iron Clad	2.50	2.75	3.00	
Fire Buckets	2.75	3.25	3.50	

Buckets—See Well Buckets.

Indurated Fiber Ware—25%

Star Pails, 12 qt.	₱ doz $5.40
Stable and Milk, 14 bt.	₱ doz $6.00
Fire Pails, deep	₱ doz $5.40
Fire Pails, round bottom	₱ doz $7.80

Standard Fiber Ware—

	Plain.	Decr'd
Water Pails, 12 qt., ₱ doz.	$4.00	$4.50
Dairy Pails, 14 qt., ₱ doz.	4.50	5.00
P., S. & W. Cast Steel	4.50	
Fire Pails, No. 2, 14 qt., ₱ doz	5.00	
Sugar Pails	6.00	6.50
Horse Pails	5.00	
Buggy Pails	4.00	
Slop Jars (bal. trap)	8.00	9.00
Chamber Pails, 14 qt.	6.50	7.50

Pans—

Dripping—

Small sizes.....₱ ℔ 6¼¢
Large sizes.....₱ ℔ 5¾¢
Silver & Co. (Covered).....40%

Fry—

Standard List: No.	0	1	2	3	4
₱ doz.	$3.00	$3.75	$4.25	4.75	$5.25
No.	5	6	7	8	
₱ doz	$6.00	$7.00	$8.00	$9.00	

Polished, regular goods.....75@75&10%
Acme Fry Pans.....60%

Dust—

Steel Edge, No. 1.....₱ doz $1.75

Paper and Cloth—

Sand and Emery—

List April 19, 1886.....50&10@50&10&5%
Sibley's Emery and Crocus Cloth.....30%

Parers—

Apple—

Advance.....₱ doz $4.75
Baldwin.....₱ doz 5.25
Bonanza.....each 5.00
Daisy.....₱ doz 4.00
Dandy.....each 7.50
Eclipse.....₱ doz 4.25
Eureka, 1888.....each 16.00
Family Bay State.....₱ doz 12.00
Favorite.....₱ doz 5.00
Gold Medal.....₱ doz 4.00
Ideal.....₱ doz 4.00
Improved Bay State.....₱ doz 27.00@30.00
Little Star.....₱ doz 4.50
Monarch.....₱ doz 13.50
New Lightning.....₱ doz 5.50
Oriole.....₱ doz 4.00
Penn.....₱ doz 4.00
Perfection.....₱ doz 4.00
Pomona.....₱ doz 4.00
Rocking Table.....₱ doz 6.00
Turn Table.....₱ doz 4.50
Victor.....₱ doz 13.50
Waverly.....₱ doz 4.00
White Mountain.....₱ doz 4.00
72.....₱ doz 4.25
78.....₱ doz 7.00

Potato—

White Mountain.....₱ doz $4.50
Antrim Combination.....₱ doz $5.50
Hoosier.....₱ doz $13.50
Saratoga.....₱ doz $5.50

Pencils—

Faber's Carpenters'.....high list 50%
Faber's Round Gilt.....₱ gro $5.25
Dixon's Lead.....₱ gro $4.50
Dixon's Lumber.....₱ gro $6.75
Dixon's Carpenters'.....10%

Picks—

Railroad or Adze Eye, 5 to 6, $12.00; 6 to 7, $13.00.....60&10@60&10&5%

Picture Nails—

See *Nails, Picture.*

Pinking Irons—

See *Irons, Pinking.*

Pins—

Bow—

Humason, Beckley & Co.'s.....60&10%
Sargent & Co.'s, #17 and #18.....60&10%
Peck, Stow & W. Co.....50&10@50&10&5%

Curtain—

Silvered Glass.....net
White Enamel.....net

Escutcheon—

Iron, list Nov. 11, 1885..50&10@50&10&5%
Brass.....60@60&5%

Pipe, Wrought Iron—

List July 21, 1892.

1¼ and under, Plain.....60&5@60&10%
1¼ and under, Galvanized.50&5@50&10%
1½ and over, Plain.....70&5@70&10%
1½ and over, Galvanized..60&5@60&10%
Boiler Tubes,
Sizes up to 2¾ in., inclusive...57½@60%
Sizes 3 in. and larger.....60@65%
Casing.....55%
Inserted Joints Casing.....50%
Steel Boiler Tubes.....30%

Planes and Plane Irons—

Wood Planes—

Molding.....40&10@40&10&10%
Bench, First quality..50&10@50&10&10%
Bench, Second quality.55&10@55&10&10%
Bailey's (Stanley R. & L. Co.).....50&10%

Iron Planes—

Bailey's (Stanley R. & L. Co.).....50&10%
Miscellaneous Planes (Stanley R. & L. Co.).....25&10%
Steers' Iron Planes.....35@35&10%
Meriden Mal. Iron Co.'s.....40@40&10%
Davis' Iron Planes.....40@40&10%
Birmingham Plane Co.....50@50&10%
Gage Tool Co.'s Self-Setting..20&10&10%
Chaplin's Iron Planes.....40@40&10%
Sargent's.....60%
Standard Tool Co.....50@50&5%

Plane Irons—

Butcher's.....$5.00@$5.25 to £
Buck Bros.....30%
Auburn Thistle.....
Ohio.....} .....30&10%
Sandusky.....
L. & I. J. White.....25
Stanley R. & L. Co.....50&10%

Plates—

Felloe.....₱ ℔ 6¢@6¼¢

Pliers and Nippers—

Button's Patent.....50@50&10%
Hall's No. 2, 5 in., $13.50; No. 4, 7 in., $21.00 ₱ doz.....40%
Humason & Beckley Mfg. Co..50@50&10%
Lindsay's Giant.....33⅓%
Gas Pliers.....60%
Gas Pliers, Custar's Nickel Plated..60&5%
Eureka Pliers and Nippers.....40%
Russell's Parallel.....25%
P., S. & W. Cast Steel.....50%
P., S. & W. Tinners' Cutting Nippers, add 6%.....10%
Carew's Pat. Wire Cutters.....20%
Morrill's Parallel, ₱ doz, $12.00.....30&5%
Cronk's 8 in., $15.00; 10 in., $21.00.....50@50&5%
Cronk's Button Pattern.....50&10@60%
Cronk's Carrier Pliers.....60@60&5%

Plumbs and Levels—

Regular List.....75&10@75&10&5%
Stanley's Duplex.....20&10%
Stanley's Handy.....20&10%
Disston's.....50%
Pocket Levels.....70&10@70&10&10%
Davis Iron Levels.....30%
Davis' Inclinometers.....10&10%

Poachers, Egg—

Buffalo Steam Egg Poachers, ₱ doz, No. 1, $6.00; No. 2, $9.00.....25%
Silver & Co., 6-Ring, ₱ doz, $4.00; 3-Ring.....$2.00

Pokes, Animal—

Bishop's I. X. L.....₱ doz $6.00
Bishop's O. K.....₱ doz $5.25
Bishop's Pioneer.....₱ doz $3.75
Bishop's American.....₱ doz $2.75
Eagle, Double Stale.....₱ doz $5.75
Eagle, Single Stale.....₱ doz $3.75
Buckeye, Single Stale.....₱ doz $2.75
Bolding.....₱ doz $6.00

Police Goods—

R. I. Tool Co., Handcuffs, $15.00 ₱ doz 10%
R. I. Tool Co., Leg Irons, $25.00 ₱ doz 10%
Tower's.....25%
Daley's Improved Handcuffs; 2 Hands, Polished, ₱ doz, $48.00; Nickeled, $57.00; 3 hands, Polished, ₱ doz, $72.00; Nickeled, $84.00.....25%
J. P. Lovell's Police Goods.....25%

Polish—

Metal—

Prestoline.....30%
Prestoline Paste.....33⅓%
Gaston's Silver Compound.....33⅓%

Stove—

Joseph Dixon's.....₱ gro, $6.00, 10%
Gem.....₱ gro, $4.50, 10%
Gold Medal.....₱ gro, $6.00, 25%
Lustro.....₱ gro, $4.75
Ruby.....₱ gro, $2.75
Rising Sun, 5 gro lots.....₱ gro $3.50
Dixon's Plumbago.....₱ ℔ 8¢
Boynton's Noon Day.....₱ gro $13.00
Parlor Pride Stove Enamel, ₱ gro
Yates' Liquid, 2 3 5 10 gal
₱ gal. .$0.80 .70 .60 .50
Yates Standard Paste Polish, 10 ℔ cans, ₱ ℔ 12½¢
Jet Black.....₱ gro $3.50
Japanese.....₱ gro $3.50
Fireside.....₱ gro $2.50
Diamond O. K. Enamel.....₱ gro $19.00
Bonnell's Liquid Stove Polish, ₱ gro $9.00
Bonnell's Paste Stove Polish, ₱ gro $6.00
Black Eagle Benzine Paste, 5 and 10 ℔ cans.....12½¢
Black Jack Water Paste, 5 and 10 ℔ cans.....12½¢
Nickel Plate Paste.....₱ gro $6.00
Crown Paste.....₱ gro $7.20
Crown Paste in 5 and 10 ℔ pails, ₱ ℔ 12¢
Black Flag.....₱ gro $7.20
Black Flag, 5 and 10 ℔ pails.....₱ ℔ 12¢
Black Flag, liquid, in bottles, ₱ gro $8.00
Diamond Rock Nickel Cleaner.....₱ gro $10.20
Raven Paste:
5-lb. pails, (per case of 6 or 12), ₱ ℔ .12¢
Less than case.....₱ ℔ .15¢
Liquid, 6 oz. bottles.....₱ gross, $6.00
Liquid, 8 oz. bottles.....₱ gross, $9.00
Water Polish.....₱ gross, $5.85

Poppers, Corn—

Round or Square, 1 qt..₱ gr $10.00@10.50
Round or Square, 1½ qt..₱ gr $15@$15.50
Round or Square, 2 qt..₱ gr $18.50@19.00

Post Hole and Tree Augers and Diggers—

See *Diggers, Post Hole, &c.*

Potato Parers—

See *Parers, Potato.*

Pots—

Glue—

Tinned.....40&10@40&10&5%
Enameled.....40&10@40&10&5%
Family, Howe's "Eureka".....40%
Family, L. F. C.'s "Handy".....50%

Powder—

In Canisters—

Fine Sporting, 1 ℔ each	$0.90
Duck, 1 ℔ each	.90
Rifle, 1 ℔ each	.30
Rifle, ½ ℔ each	.18
Rifle, ¼ ℔ each	.13

In Kegs—

Rifle, 25-℔ kegs	$5.00
Rifle, 12½-℔ kegs	2.75
Rifle, 6¼-℔ kegs	1.50
Duck, 12½-℔ kegs	5.75
Duck, 6¼ ℔ kegs	3.00
Trap, 25-℔ kegs	6.00
Trap, 12½-℔ kegs	3.25
Trap 6¼-℔ kegs	1.75

Presses—

Fruit and Jelly—

Enterprise Mfg. Co.....20&10@30%
Henis.....₱ doz $3.50
Shepard's Queen City.....40%
Silver & Co.....₱ doz $2.75

Pruning Hooks and Shears—See *Shears.*

Pullers, Nail—

Scranton.....₱ doz., $18.00, 33⅓%
Curtis Hammer.....₱ doz., $9.00
Giant, No. 1.....₱ doz., $18.00, 10%
Giant, No. 2.....₱ doz., $15.00, 10%
Pelican.....₱ doz., $9.00, 25%
Eclipse.....Each, $2.00, net
Economy.....₱ doz., $6.00

Pulleys—

Hot House, Awning, &c.....60&10%
Japanned Screw.....60&10%
Brass Screw.....60&10%
Japanned Side.....60⅔&10%
Japanned Clothes Line.....60&10%
Empire Sash Pulley.....55@60%
Moore's Sash, Anti-Friction.....50%
Hay Fork, Solid Eye, $4.00; Swivel, $4.50.....50&10@50&10&5%
Hay Fork, "Anti-Friction," 5 in. solid, $5.70.....50%
Hay Fork, "F" Common and Patent Bushed.....20%
Hay Fork, Tarbox Pat. Iron.....20%
Hay Fork, Reed's Self-Lubricating....60%
Shade Rack.....45%
Tackle Blocks—See Blocks.
Moore's Anti-Friction 5 in. Wheel, ₱ doz., $12.00.....40%

Pumps—

Cistern, Best Makers.....60@60&10%
Pitcher Spout, Best Makers.....67½@70%
Pitcher Spout, Cheaper G'ds..75@75&10%

Punches—

Saddler's or Drive, good..₱ doz., 60@65%
Bemis & Call Co.'s Cast Steel Drive.50&5%
Bemis & Call Co.'s Springfield Socket.. 50&5%
Spring, good quality..₱ doz., $2.50@$2.60
Spring, Leach's Pat 15%
Bemis & Call Co.'s Spring and Check..40%
Solid Tinners', P., S. & W. Co., ₱ doz., $1.44.....55%
Tinners' Hollow Punches, P., S. & W. Co.....20&2%
Rice Hand Punches.....15%
Avery's Revolving.....40%
Avery's Sawset and Punch—See Sawsets.

Rail—

Sliding Door, Wr't Brass....₱ ℔, 35¢, 40%
Sliding Door, Bronzed Wr't Iron..₱ ft., 7¢
Sliding Door, Iron, Painted..₱ ft., 4¢, 40%
Barn Door, Light..In. ¼ ⅜ ¾
Per 100 feet.....$2.00 2.50 3.10, 10%
B. D. for N. E. Hangers—
Small. Med. Large.
Per 100 feet.....$3.15 2.70 3.25 Net
Terry's Steel Rail.....₱ ft., 4½¢
Victor Track Rail, 7¢ ₱ foot.....50&2%
Carrier, double braced, Steel Rail, ₱ foot.....4@4½¢
Moore's Wrought Iron.....25%
Moody Steel Rail.....45%

Rakes—

Cast Steel, Association goods....60⅔@70%
Cast Steel, outside g'ds,.60&10&10@70&5%
Malleable.....70@70&5%
Gibbs Lawn Rake.....₱ doz., $4.90
Canton Lawn Rake.....₱ doz., $3.75
Favorite Lawn Rake.....₱ doz., $4.40
Oneida Lawn Rake.....₱ doz., $6.00
Fort Madison Prize Bow Brace and Peerless.....65%
Fort Madison Steel Tooth Lawn Rake, $6.00.....25%

Razors—

J. R. Torrey Razor Co.....20%
Wostenholm and Butcher, $10 to £....10%
Jordan's AAA1, new list.....Net
Jordan's Old Faithful, new list.....Net
Galvanic.....₱ doz., $15.00
Electric Cutlery Co.....Net
Campbell Cutlery Co.....50%

Razor Strops—

See *Strops, Razor.*

Rings and Ringers—

Bull Rings—

Union Nut Co.....55%
Sargent's.....75&10%
Hotchkiss' low list.....30%
Humason, Beckley & Co.'s.....70&10%
Peck, Stow & W. Co.'s..50&10@50&10&10%
Ellrich Hdw. Co., White Metal, low list. 50@50&10%

Hog—

Top of the Hill Ringers.....₱ doz $2.00
Top of the Hill Rings.....₱ doz $1.25
Hill's Improved Ringers.....₱ doz $1.25
Hill's Old Style Ringers.....₱ doz $1.12½
Hill's Tongs.....₱ doz $3.00
Hill's Rings.....₱ doz bxs $1.00
Perfect Rings.....₱ doz bxs $1.50
Perfect Ringers.....₱ doz $2.15@$2.25
Blair's Hog Ringers.....₱ doz $2.00
Blair's Hog Rings.....₱ doz 90¢@$1.00
Champion Ringers.....₱ doz $2.00
Champion Rings, Double.....₱ doz $2.25
Brown's Ringers.....₱ doz $2.00
Brown's Rings.....₱ doz $1.15@$1.25
Electric Hog Rings.....₱ doz boxes $1.50
Electric Hog Ringers.....₱ doz $2.00
Major Rings.....₱ doz $1.25
Major Ringers.....₱ doz $2.00

Rivets and Burrs—

Iron, list Nov. 17, '87.....40%
Copper.....60&10%
Coppered Iron, Bettina Brand.....40%

Rivet Sets—See *Sets.*

Rods—

Stair, Brass.....25&2½
Stair, Black Walnut.....₱ doz 40¢

Rollers—

Barn Door, Sargent's list.....60&10&10%
Acme Moore's Anti-Friction.....55%
Union Barn Door Roller.....70%
Thompson Mfg. Co.,s Lawn Rollers..30%

Rope—

Manila, 7-16 in. diam. and larger ₱ ℔ 12¼¢
Manila.....⅜ in. ₱ ℔ 12¾¢
Manila.....¼ and 5-16 in. ₱ ℔ 13¾¢
Manila, Tarred Rope.....₱ ℔ 11¾¢
Manila, Hay Rope.....₱ ℔ 12¾¢
Sisal.....7-16 inch and larger ₱ ℔ 10¾¢
Sisal.....⅜ in. ₱ ℔ 10¾¢
Sisal.....¼ and 5-16 in. ₱ ℔ 11¾¢
Sisal, Hay Rope.....₱ ℔ 10¾¢
Sisal, Tarred Rope.....₱ ℔ 9¾¢
Sisal, Medium Lath Yarn.....₱ ℔ 9¾¢
New Zealand..7-16 in. & larger ₱ ℔ 8¾¢
New Zealand.....¾ inch, ₱ ℔ 9¼¢
New Zealand..¼ and 5-16 inch, ₱ ℔ 9¾¢
New Zealand, Hay Rope.....₱ ℔ 8¾¢
New Zealand, Tarred Rope....₱ ℔ 8¾¢
Note.—Manufacturers' prices on above 1¢ ℔ less, f.o.b. factory—less 1½ % for cash.
Cotton Rope.....₱ ℔ 13½@16¢
Jute Rope.....₱ ℔ 6½@7¢

Wire—

List February, 1892.
All kinds.....45%

Rules—

Boxwood.....80&10&10%
Ivory.....50@50&10%
Starrett's Rules and Straight Edges, Steel.....25&10%

Sad Irons—See *Irons, Sad.*

Sand and Emery Paper and Cloth—

See *Paper and Cloth.*

Sash Cord—See *Cord, Sash.*

Sash Locks—See *Locks, Sash.*

Sash Weights—

See *Weights, Sash.*

Sausage Stuffers or Fillers—See *Stuffers or Fillers, Sausage.*

Saws—The following prices are often cut by jobbers.

Disston's Circular.....45@45&5%
Disston's Cross Cut.....45@45&5%
Disston's Hand.....25%
Woodrough & McFarlin.
Hand, Panel and Rip.....30@30&5%
Narrow Champion Cross Cuts with Handles, ₱ foot.....18@20¢
Champion Thin Back Cross Cuts, ₱ foot.....26@28¢
Champion Extra Thin Back Cross Cuts, ₱ foot.....29@31¢
One Man Champion Cross Cuts, ₱ foot.....37@40¢
Wheeler, Madden & Clemson Mfg. Co.
Hand, Panel and Rip.....35@35&5%
Narrow Champion Cross Cuts with Handles, ₱ foot.....18@20¢
Champion Thin Back Cross Cuts, ₱ foot.....26@28¢
Champion Extra Thin Back Cross Cuts, ₱ foot.....29@31¢
One Man Champion Cross Cuts, ₱ ft.. 37@39¢
Atkins' Circular Shingle & Heading..50%
Atkins' Silver Steel Diamond X Cuts ₱ foot 70¢
Atkins' Special Steel Dexter X Cuts ₱ foot 50¢
Atkins' Special Steel Diamond X Cuts ₱ foot 32¢
Atkins' Champion and Electric Tooth X cuts.....₱ foot 30¢
Atkins' Hollow Back X Cuts...₱ foot 20¢
Atkins' Mulay, Mill and Drag.....40%
Atkins' One-Man Saw, with handles, ₱ foot 40¢
Peace Circular and Mill.....45@45&5%
Peace Hand Panel and Rip.....25@25&5%
Peace Cross Cuts.....45@45&5%
Richardson's Circular and Mill.45@45&5%
Richardson's X Cuts.....45@45&5%
Richardson's Hand, &c.....25@25&5%
C. E. Jennings & Co. Hand, Panel and Rip.....25@25&10%

Hack Saws—

Griffin's, complete.....40&10@50
Griffin's Hack Saw Blades.....40&10@50
Star Hack Saws and Blades.....25%
Eureka and Crescent.....25%

Scroll—

Lester, complete, $10.00.....25%
Rogers, complete, $4.00.....25%
Barnes' Builders' and Cab Makers'$15,25%
Barnes' Scroll Saw Blades.....35%

Saw Frames—

See *Frames, Saw.*

Saw Sets—See *Sets, Saw.*

Saw Tools—See *Tools, Saw.*

Scales—

Hatch, Counter, No. 171, good quality, ₱ doz $21.00
Hatch, Tea, No. 161....₱ doz $6.75@$7.00
Union Platform, Plain.....$2.10@2.20
Union Platform, Striped.....$2.40@2.50
Chatillon's Grocers' Trip Scales.....50%
Chatillon's Eureka.....25%
Chatillon's Favorite.....40%
Family, Turnbulls.....30@30&10
Riehle Bros.' Platform.....40%

Scale Beams—

See *Beams, Scale.*

Scissors, Fluting.....45%

Scrapers—

Adjustable Box Scraper (S. R. & L. Co.) $6.50.....30&10%
Box, 1 Handle.....₱ doz $4.00..10%
Box, 2 Handle.....₱ doz $6.00..10%
Defiance Box and Ship.....20&10%
Foot.....50&10&60%
Ship, Common.....₱ doz $5.50 net
Ship, R. I. Tool Co.....10%

Screen Window and Door Frames—See *Frames.*

Screw Drivers—

See *Drivers, Screw.*

Screws—

Bench and Hand—

Bench, Iron.....55&10@55&10&10%
Bench, Wood, Beech.....₱ doz $2.25
Bench, Wood, Hickory.....20&10%
Hand, Wood.....25&10@25&10&5%
Hand, Grand Rapids, list.....35%
Lag, Blunt Point, list Jan. 1, 1890..75&10%
Coach and Lag, Gimlet Point, list Jan. 1, 1890.....75@75&10%
Bed.....25&5%
Hand Rail, Sargent's.....70&10%
Hand Rail, H. & F. Mfg. Co....70&10@75%
Hand Rail, Am. Screw Co.....75%
Jack Screws, Millers Falls list..50@50&5%
Jack Screws, P., S. & W.....35%
Jack Screws, Sargent.....70%
Jack Screws, Stearns'.....40@40&10%

Cork—

Humason & Beckley Mfg. Co..40&10@50%
Williamson's.....33⅓@33⅓&5%
Howe Bros. & Hulbert.....35%

Machine—

Flat Head Iron.....65%
Round Head Iron.....60%

Wood—

List January 1, 1891.

Flat Head Iron	70%	Extra 10@10 & 5 % often given.
Round Head Iron	65%	
Flat Head Brass	70%	
Round Head Brass	65%	
Flat Head Bronze	70%	
Round Head, Bronze	65%	
Rogers' Drive Screws	82½%	

Scroll Saws—See *Saws, Scroll.*

Scythes—

Grain.....40&5@40&10%
Grass.....40&10&50%

Scythe Snaths—

See *Snaths, Scythe.*

Sets—

Awl and Tool—

Aiken's Sets, Awls and Tools, No. 20, ₱ doz $10.00.....55&10%
Fray's Adj. Tool Hdls., Nos. 1, $12; 2, $18; 3, $12; 4, $9.....45%
Millers Falls Adj. Tool Hdls. Nos. 1, $12; 2, $18.....25%
Henry's Combination Haft...₱ doz $6.50
Stanley's Excelsior: No. 1, $7.50; No. 2, $4.00; No. 3, $5.50.....30&10%
Common Brad Sets, No. 42, $10.50; No. 43, $12.50...70&10&5%

Nail—

Square.....₱ gr. $4.00@$4.25
Round.....₱ gr. $3.25
Buck Bros.....27½%
Cannon's Diamond Point...₱ gr. $12, 20%

Rivet—

Regular list.....50&10%

Saw—

Stillman's Genuine....₱ doz $5.00@7.75, 40&5%
Stillman's Pattern, Hand, ₱ doz $3.25; Cross Cut, $5.25.....55%
Common Lever.....₱ doz $2.00, 45@50%
Morrill's No. 1, $12.00.....40&20%
No. 11, $15.00.....40&10@40&20%
Nos. 3 and 4, $18.00.....40&5%
No. 5, $24.00.....40@5&5
Leach's..No. 0, $8.00; No. 1, $15...15@20%
Nash's.....20&10@20&10&10
Hammer, Hotchkiss.....$5.50, 10%
Hammer, Bemis & Call Co.'s new Pat., 30@5%
Bemis & Call Co.'s Lever and Spring Hammer.....30@5%
Bemis & Call Co.'s Plate.....10%
Bemis & Call Co.'s Cross Cut.....12½%
Aiken's Genuine.....$13.00, 50&10@60%
Aiken's Imitation.....$7.00, 55&5%
Hart's Pat. Lever.....20%
Disston's Star.....25%
Leopold.....40&10@50%
Atkin's Lever.....₱ doz No. 1, $6.00
Atkin's Criterion.....₱ doz No. 1, $6.00
Croissant (Keller), No. 1, $15.00; No. 2, $24.00.....40&10%
Avery's Saw Set and Punch.....50%
Chieftain Co.'s Superior.....₱ doz $7.00
Chieftain Co.'s Royal.....₱ doz $7.50
Crescent.....₱ doz $3.00
Lloyd's Acme.....₱ doz $15, 40&10%
Taintor Positive.....₱ doz $18, 50%

Sharpeners, Knife—

Larkins'.
Applewood Handles...₱ doz. $6.00, 40%
Rosewood or Cocobola. ₱ doz. $9.00 40%

Shaves, Spoke—

Iron.....45%
Wood.....30%
Bailey's (Stanley R. & L. Co.)....40&10%
Stearns'.....30&10%
Cincinnati.....25&10%
Goodell's ₱ doz. $9.00.....25%

Shears—

American (Cast) Iron..75&10@75&10&5%
Barnard's Lamp Trimmers..₱ doz. $3.75
Tinners'.....20&2%
Seymour's, List Dec. 1881. 60&10&10@60&10&10&5%
Heinisch's, List Dec. 1881. 60&10&10@60&10&10&5
Heinisch's Tailor's Shears.....33⅓&5
Cast Steel Trimmers:
First quality.....80@80&10%
Second quality.....80&10@80&10&10%
Acme Cast Shears.....10&10%
Diamond Cast Shears.....10%
Clipper.....10&10%
Victor Cast Shears.....75&10@75&10&5%
Howe Bros. & Hulbert, Solid Forged Steel.....40%
Chicago Drop Forge & F. Co, Solid Steel Forged.....60%
Davenport Cutlery Co.....60@60&10%
Clauss Shear Co., Japanned.....70%
Clauss Shear Co., Nickeled, same list..60%
Galvanic 3½ to 9 in., ₱ doz. $1.00 ₱ inch
Electric Cutlery Co.....Net
Campbell Cutlery Co., Jap'd.... 75%
Nickel Plated.....65%

Pruning Shears and Hooks.

Disston's Combined Pruning Hook and Saw.....₱ doz. $18.00, 20&10%
Disston's Pruning Hook, ₱ doz. $12.00 20&10%
E. S. Lee & Co.'s Pruning Tools.....40%
Pruning Shears, Henry's Pat., ₱ doz. $3.75@$4.00
Henry's Pruning Shears, ₱ doz. $4.25 @$4.50
Wheeler, M. & C. Co., Combination, ₱ doz $12.00, 20%
Dunlap's Saw and Chisel, ₱ doz $8.50, 30%
J. Mallinson & Co., No. 1, $5.25; No. 2, $7.25
P., S. & W. Co.....60%

Tinners', &c.—

Shears and Snips (P. S. & W.).....20@25%
Snips, J. Mallinson & Co.....33⅓%

Sheaves—

Sliding Door—

M. W. Co., list July, 1888....50&10@60&5%
R. & E., list Dec. 18, 1885.....55&20%
Corbin's list.....60&10&2%
Patent Roller.....60&10&2%
Patent Roller, Hatfield's.....75%
Russell's Anti-Friction, list Dec. 18, 1885.....60&2%
Moore's Anti-Friction.....50%

Sliding Shutter—

R. & E., list Dec. 18, 1885.....60&10&2%
Sargent's list.....70%
Reading list.....60&10&10%

Shells—

First quality 4, 8, 10 and 12 gauge 25&10&2%
First quality Rival, Club and Climax brands, 14, 16 and 20 gauge ($7.50 list).....20&10&2%
Prize.....40&2%
Star, Club, Rival and Climax Brands... 33⅓&10&2%
Smokeless brand, 12, 10, 16 gauge. 33⅓&10&2%
Trap brand, 12 and 10 gauge..33⅓&10&2%
Selbold's Comb. Shot Shells.....15&2%
Brass Shot Shells, 1st quality.....60&2%
Brass Shot Shells, Club, Rival, Climax. 65&2%

Shells Loaded—

Standard List, July 19, 1890..... 40&10&10@40&10&10&5%

Ship Tools—

L. & I. J. White.....20&5%

Shoes, Horse, Mule, &c.—

Horse—

Burden's, Perkins', Phœnix, Diamond State & Bryden's Boss, at factory..$4.00
Bryden's Frog Pressure, at factory..$5.00

Mule—

Add $1 ₱ keg to above prices.

Ox Wrought—

Ton lots.....₱ ℔ 9¢
1000 ℔ lots.....₱ ℔ 9½¢
500 ℔ lots.....₱ ℔ 10¢

Shot—

	Ton lots	Small lots
Drop, up to B, 25-℔ bag	$1.40	$1.45
Drop, up to B, 5-℔ bag	.35	.35
Drop, B and larger, 25-℔ bag	1.65	1.70
Drop, B and larger, 5-℔ bag	.40	.40
Buck and Chilled, 25-℔ bag	1.65	1.70
Buck and Chilled, 5-℔ bag	.40	.40
Dust Shot, 25-℔ bag	2.00	2.00
Dust Shot, 5-℔ bag	.45	.45

Shovels and Spades—

Ames' Shovels, Spades, &c., list Nov. 1, 1885.....20%
NOTE.—Jobbers frequently give 5@7½% extra on above.
Griffith's Black Iron.....50&10%
Griffith's C. S.....60@60&10%
Griffith's Solid C. S. R. R. Goods.....20%
St. Louis Shovel Co.....20@20&7½%
Hussey, Binns & Co.....15@25%
Hubbard & Co.....20@20&7½%
Lehigh Mfg. Co.....50&10%
H. M. Myers Co.....30%
Payne Pettebone & Son.....33⅓&5%
Remington's (Lowman's Pat.)30&10@40%
Rowland's Black Iron.....50&10%
Rowland's Steel.....60&5@60&10%
Terra Haute Shovel & Tool Co.....25%

Shovels and Tongs—

Iron Head.....60&10@60&10&5%
Brass Head.....60&10&10%

Sieves—

Mann's Tin Rim.....50&25%
Buffalo Metallic, S. S. & Co.....50&25%
Shaker (Barler's Pat.) Flour Sifters ₱ doz $2.00; ₱ gr $21.60
Electric.....₱ gr $21.00
A. & W. Sifters.....₱ doz $2.00
Hunter's.....₱ doz $2.00

Sieves, Wooden Rim—

	Iron.	Plated.
Mesh 18, Nested, ₱ doz.	$0.80	$1.00
Mesh 20, Nested, ₱ doz.	.95	1.10
Mesh 24, Nested, ₱ doz.	1.15	1.25

Skeins, Thimble—

Western list.....75&5@75&10%
Columbus Wrt. Steel..Special net prices
Coldbrookdale Iron Co.....60%
Seneca Falls Pattern.....60%
Utica P. S. T. Skeins.....60%
Utica Turned and Fitted.....35%

Slates—

School, by case.....50&10@50&10&10%

Snaps, Harness, &c.—

Anchor (T. & S. Mfg. Co.).....65%
Fitch's (Bristol).....50&10%
Hotchkiss.....10%
Andrews.....50%
Sargent's Patent Guarded.....70&10&10%
German, new list.....40&10%
Covert.....50&10&5&2%
Covert, New Patent.....50&10&5&2%
Covert, New R. E.....60&10&5&2%
Covered Spring.....60&10&10%
Covert's Saddlery Works' Triumph..33⅓%

Snaths, Scythe—

List.....50@50&5%

Soldering Irons—

See *Irons, Soldering.*

Spittoons, Cuspidors, &c.

Standard Fiberware—

Cuspidors, 8½-inch, ₱ doz., No. 5, $8; No. 5X, $9.
Spittoons, Daisy, 8-inch, No. 1, $4; 10 and 11 inch, $6.

Spoke Shaves—

See *Shaves, Spoke.*

Spoke Trimmers—

See *Trimmers, Spoke.*

Spoons and Forks—

Tinned Iron—

Basting, Cen. Stamp. Co.'s list.....70&10%
Solid Table and Tea, Cen. Stamp. Co.'s list.....70&10%
Buffalo, S. S. & Co.....33⅓&2%

Silver Plated—

4 months or 5% cash 30 days:
Meriden Brit. Co., Rogers.....40&15%
C. Rogers & Bros.....40&15%
Rogers & Bros.....40&15
Reed & Barton.....40@40&5%
Wm. Rogers Mfg. Co.....40, 15&5%
Simpson, Hall, Miller & Co.....40, 15&5%
Holmes & Edwards Silver Co.....40, 15&5%
L. Boardman & Son.....50&12½%

Miscellaneous—

Holmes & Edwards Silver Co.:
No. 67 Mexican Silver.....50&10&5%
No. 30 Silver Metal.....50&10&5%
No. 24 German Silver.....50&10&5%
No. 50 Nickel Silver.....50&5%
No. 49 Nickel Silver.....50&10&5%

Wm. Rogers Mfg. Co.:
Rogers' Silver Metal.....50&10&0%
18% Rogers' German Silver.....60&0%
22% Rogers' Nickel Silver.....50&0%
German Silver.....50&50&5%
German Silver, Hall & Elton..50&5% cash
Nickel Silver.....50&5&50&10&5% cash
Britannia.....60@6%&5%
Boardman's Nickel Silver, list July 1, 1891.....60&7½&5%
Boardman's Brittannia Spoons, case lots.....60&5% cash

Springs—

Door—

Torrey's Rod, 39 in.....₱ doz $1.20@1.25
Gray's, ₱ gr. $20.00.....25%
Bee Rod, ₱ gr., $20.00.....20@25%
Warner's No. 1, ₱ doz $2.50; No. 2, $3.30.....50&50&5%
Gem (Coil), list April 19, 1886.....10@15%
Star (Coil), list April 19, 1886...20@20&5%
Victor (Coil).....60&10&60&10&5%
Champion (Coil).....60&10@60&10&10%
Cowell's, No. 1, ₱ doz $18.00; No. 2, $15.00.....50@50&10%
Rubber, complete, ₱ doz $4.50.....55&10%
Hercules.....50@50&10%

Carriage, Wagon, &c.—

Elliptic, Concord, Platform and Half Scroll.....60&10&10%
Cliff's Bolster Springs.....25%

Squares—

Steel and Iron.....
Nickel-Plated.....85@85&5%

Try Square and T Bevels.....60&10&10%
Disston's Try Square and T Bevels.....50%
Winterbottom's Try and Miter....30&10%
Starrett's Micrometer Caliper Squares.....25%
Avery's Flush Bevel Squares.....40%
Avery's Bevel Protractor.....50%

Squeezers—

Fodder—

Blair's.....₱ doz $2.00
Blair's "Climax".....₱ doz $1.25

Lemon—

Porcelain Lined, No. 1....₱ doz $6.00
.....25&30%
Wood, No. 2.....₱ doz $3.00, 35%
Wood, Common.....₱ doz $1.70@1.75
Dunlap's Improved.....₱ doz $3.75, 20%
Samml's....No. 1, $5,00; No. 2, ₱ 12 $18 ₱ doz.....25&10%
Jennings' Star.....₱ doz $2.50
The Boss.....₱ doz $2.50
Dean's..Nos. 1, ₱ doz $6.50; 2, $3.35; 3, $1.90; Queen, $2.50
Little Giant.....50&50&5%
King.....40&5%
Hotchkiss Straight Flush....₱ doz $12.00
Silver & Co., Glass.....₱ gro. $9.00
Manny Lemon Juice Extractor:
Standard.....₱ doz $0.75@$1.00
Improved.....₱ doz $2.00

Standard Fiber Ware—

See *Ware, Standard Fiber.*

Staples—

Blind—

Barbed, 1½ in. and larger....₱ ℔ 7@7½¢
Barbed, ¾ in.....₱ ℔ 8@8½¢
Fence Staples, Galvanized. / Fence Staples, Plain..... } Same price as Brd Wire See Trd. Rep

Steelyards.....40&10@50%

Stocks and Dies—

Blacksmith's:
Waterford Goods.....35%
Butterfield's Goods.....35%
Lightning Screw Plate.....25@30%
Reece's New Screw Plates.....25@30%
Reversible Ratchet.....30%
Gardner.....25%
Green River.....25@30%

Stops, Bench—

Morrill's.....₱ doz $9, 50%
Hotchkiss's.....₱ doz $5, 10@10&10%
Weston's, No. 1, $10; No. 2, $9, 25&10&5%
McGill's, ₱ doz $3.....10%
Cincinnati.....25&10%
Terrell's Nos. 1 and 2, ₱ doz., $3; No. 3, $3.60.....30%

Stone—

Scythe Stones—

Pike Mfg. Co., list April, 1892.....33⅓%

Oil Stones, &c.—

	Price ₱ ℔
Pike Mfg. C.:	
Hindostan No. 1	.8¢
Sand Stone	.5¢
Washita Stone, Extra	.50¢
Washita Stone, No. 1	.40¢
Washita Stone, No. 2	.30¢
Washita Slips, Extra	.80¢
Washita Slips, No. 1	.70¢
Arkansas Stone, No. 1, 3 to 5¼ in., $2.80	Dis. 40@40&10%
Arkansas Stone, No. 1 5¼ to 8 in., $3.50	
Turkey Oil Stone, 4 to 8 in	.80¢
Turkey Slips	.$2.00
Lake Superior, Chase	₱ ℔ 13¢
Lake Superior Slips, Chase	₱ ℔ 20¢

Stove Polish—

See *Polish, Stove.*

Stretchers, Carpet—

Cast Steel, Polished.....₱ doz $2.25
Cast Iron, Steel Points.....₱ doz 80¢
Socket.....₱ doz $1.75
Bullard's.....25@25&10%

Strops, Razor—

Genuine Emerson.....60@60&5%
Imitation " ..₱ doz $2.00, 20&10&5%
Torrey's.....20%
Badger's Belt and Com.....₱ doz $2.00
Lamont Combination.....₱ doz $4.00
Jordan's Pat. Padded, list Nov. 1, '89, 50%
Electric Cutlery Co.....Net
Campbell Cutlery Co.....Net

Stuffer or Fillers, Sausage—

Miles' Challenge, ₱ doz $20.....50@50&5%
Perry....₱ doz, No. 1, $15.00; No. 0, $21.00.....50&5&50&10%
Draw Cut No. 4, each $30.00.....20%
Enterprise Mfg. Co.....20&10&30%
Silver's.....40&10%

Sweepers, Carpet and Lawn—

Carpet—

Bissell No. 5.....₱ doz $17.00
Bissell No. 8.....₱ doz $20.00
Bissell, Grand.....₱ doz $36.00
Standard.....₱ doz $24.00
Domestic.....₱ doz $21.00
Domestic, No. 2.....₱ doz $22.00
Grand Rapids.....₱ doz $24.00
Crown Jewel, No. 1, $18.00; No. 2, $19.00; No. 3, $20.00
Magic.....₱ doz $15.00
Improved Parlor Queen, Nickeled.....₱ doz $27.00
Japanned.....₱ doz $24.00
Excelsior.....₱ doz $22.00
Garland.....₱ doz $18.00
Parlor Queen.....₱ doz $24.00
Housewife's Delight.....₱ doz $15.00
Queen.....₱ doz $16.00
Queen, with band.....₱ doz $18.00
Ring.....₱ doz $30.00
Weed, Improved.....₱ doz $18.00
Hub.....₱ doz $16.00
Cog-Wheel.....₱ doz $16.00
Easy.....₱ doz $22.00
Monarch.....₱ doz $22.00
Goshen.....₱ doz $21.00
Ladies' Friend.....₱ doz $15.00
Advance.....₱ doz $18.00
Supreme.....₱ doz $22.00

Lawn—

Thompson Mfg. Co.....30%

Tacks, Brads, &c.—

List October 19, 1889. Old established straight Weights. Short Weight goods are sold at lower prices.

Carpet Tacks—
American, Blued.....66⅔%
American, Tin'd and Cop'd.....70%
Steel, Bright and Blued.....66⅔%
Steel, Tinned and Coppered.....70%
Swedes Iron, Blued.....72½%
Swedes Iron, Tinned.....75%
American Iron Tacks, Domestic.66⅔%
Swedes Iron Tacks—
S. S., Blued.....66⅔%
S. S., Tinned.....70%
Lanc., Blued.....55%
Lanc., Tinned.....60%
Gimp and Lace Tacks—
S. S., Blued.....62½%
S. S., Tinned.....66⅔%
Lanc., Blued.....50%
Lanc., Tinned.....60%
Basket and Trimmers' Tacks—
Lanc.....52½%
S. S.....60%
Hungarian Nails.....60%
Common and Patent Brads.....55%
Leathered Tacks.....10%
Brush Tacks, S. S.....60%
Looking Glass Tacks, S. S.....35%
Picture-Frame Points, S. S.....35%
Finishing Nails.....60%
Trunk and Clout Nails—
Black.....62½%
Tinned or Coppered.....66⅔%
Basket Nails.....60%
Chair Nails.....52½%
Cigar Box Nails.....40%
Tin Capped Nails.....50%

Extra discount 25&2½%

Miscellaneous—

Double Point.....90@90&10%
Wire Carpet Nails.....50&10%
Plymouth Rock Steel Carpet Tacks...25%

Wire Brads and Nails—

Steel-Wire Brads, R. & E. Mfg. Co.'s list 50&10%

See also *Nails, Wire.*

Tapes, Measuring—

American.....40@40&5%
Spring.....40%
Chesterman's, Regular list.....25@30%

Thermometers—

Tin Case.....80@80&10%

Thimble Skeins—See *Skeins.*

Ties, Bale—Steel.

Standard Wire, list.....50&10&5%

Tinners' Shears, &c —

See *Shears, Tinners' &c.*

Tinware—

Stamped, Japanned and Pieced, list Jan 20, 1887.....70&10&70&25%

Tire Benders, Upsetters, &c.—See *Benders and Upsetters, Tire.*

Tools—

Coopers'—

Bradley's.....20%
Barton's.....20@20&5%
L. & I. J. White.....20&5%
Albertson Mfg. Co.....25%
Beatty's.....30%
Sandusky Tool Co.....30@30&5%
Shaves Cincinnati Tool Co.....20%

Lumber—

Ring Peavies, "Blue Line"..₱ doz $20.00
Ring Peavies, Common.....₱ doz $18.00
Steel Socket Peavies.....₱ doz $21.00
Mall. Iron Socket Peavies...₱ doz $19.00
Cant Hooks, "blue Line"....₱ doz $16.00
Cant Hooks, Common Finish..₱doz$14.00
Cant Hooks, Mall. Socket Clasp, "Blue Line" Finish.....$16.00
Cant Hooks, Mall. Socket Clasp, Common Finish.....₱ doz $14.50
Cant Hooks, Clip Clasp, "Blue Line" Finish.....₱ doz $14.00
Cant Hooks, Clip Clasp, Common Finish.....₱ doz $12.00
Hand Spikes....₱ doz 6 ft., $15.00; 8 ft., $20.00
Pike Poles, Pike & Hook, ₱ doz, 12 ft., $11.50; 14 ft., $12.50; 16 ft., $14.50; 18 ft., $17.50; 20 ft., $21.50.
Pike Poles, Pike only, ₱ doz, 12 ft., $10.00; 14 ft., $11.00; 16 ft., $13.00; 18 ft., $16.00; 20 ft., $20.00.
Pike Poles, not ironed, ₱ doz, 12 ft., $6.00; 14 ft., $7.00; 16 ft., $9.00; 18 ft., $12.00; 20 ft., $16.00.
Setting Poles, ₱ doz, 12 ft., $14.00; 14 ft., $15.00; 16 ft., $17.00.
Swamp Hooks.....₱ doz $18.00

Saw—

Atkins' Perfection.....₱ doz $12.00
Atkins' Excelsior.....₱ doz $6.00
Atkins' Giant.....₱ doz $4.00

Tobacco Cutters—

See *Cutters, Tobacco.*

Transom Lifters—

See *Lifters, Transom.*

Traps—

Game—

Newhouse.....40@40&5%
Onelda Pattern.....70&10%
Game, Blake's Patent.....40&10&5%

Mouse and Rat—

Mouse Wood, Choker, ₱ doz holes, 9@10¢
Mouse, Round Wire.....₱ doz $1.50 10%
Mouse, Cage, Wire.....₱ doz $2.50 10%
Mouse, Catch-'em-alive..₱ doz $2.50 15%
Mouse, Bonanza.....₱ doz 0.90@$1.00
Rat, Decoy.....₱ gr $10.00, 10%
Ideal.....₱ gr $10.00
Cyclone.....₱ gr $5.25
Hotchkiss Metallic Mouse, 5-hole traps, ₱ doz., 75¢; in full cases, ₱ doz.60@65¢
Hotchkiss Imp. Rat Killer...₱ gro $18.50
Hotchkiss New Rat Killer...₱ gro $16.50
Schuyler's Rat Killer.....₱ gro $15.00

Triers—

Butter and Cheese.....25%

Trimmers, Spoke—

Bonney's.....₱ doz $10.00, 50%
Stearns'.....20&10%
Ives', No. 1, $15.00; No. 2, $12.00 ₱ doz. 55&10%
Douglas'.....₱ doz $9.00, 20%
Cincinnati.....25%

Trowels—

Lothrop's Brick and Plastering, 20&10&5&35%
Reed's Brick and Plastering.....15%
Disston's Br'k and Plastering..25&25&5%
Peace's Plastering.....25&25&5%
Clement & Maynard's.....20&20&5%
Rose's Brick.....15&20%
Brade's Brick.....25%
Worrall's Brick and Plastering.....20%
Garden.....70%
Cleves' Angle Trowel, ₱ gro, No. 1, $36; No. 2, $30; No. 3, $15. net @ 10%

Trucks, Warehouse, &c.—

B. & L. Block Co.'s list.....40%
Thompson Mfg. Co.....25%

Tubes, Boiler—

See Pipe.

Twine—

Flax Twine—

	BC.	B.
No. 9, ¼ and ⅛ ℔ Balls	25¢	31¢
No. 12, ¼ and ⅛ ℔ Balls	22¢	30¢
No. 18, ¼ and ⅛ ℔ Balls	20¢	29¢
No. 24, ¼ and ⅛ ℔ Balls	20¢	29¢
No. 36, ¼ and ⅛ ℔ Balls	18¢	28¢

No. 264 Mattrass, ¼ and ⅛ ℔ Balls, 52@54¢
Chalk Line, Cotton, ⅛ ℔ Balls.....25¢
Mason Line, Linen, ⅛ ℔ Balls.....55¢
2-Ply Hemp, ¼ and ⅛ ℔ Balls (Spring Twine).....15¼¢
3-Ply Hemp, 1 ℔ Balls.....16¢@16¾¢
3-Ply Hemp, 1¼ ℔ Balls.....15¢@15½¢
Cotton Wrapping, 5 Balls to ℔...15¢@16¢
2, 3, 4 and 5 Ply Jute, ⅛ ℔ Balls.....10¢
Wool.....6½¢@6⅝¢
Paper.....13¢@14¢
Cotton Mops, 6, 9, 12 and 15 ₱ to doz..18¢

Vises—

Solid Box.....50&10@50&10&5%

Parallel—

Fisher & Norris Double Screw....15&10%
Stephens'.....25@30%
Parker's.....20@25%
Wilson's.....55%
Howard's.....40%
Bonney's.....40&10%
Millers' Falls.....40@40&10%
Trenton.....40&5@40&10%
Merrill's.....15@20%
Sargent's.....70&10%
Backus and Union.....40%
Double Screw Leg.....15&10%
Prentiss.....20@25%
Simpson's Adjustable.....40%
Moore's.....20%
Massey Quick Action.....20@25%

Saw Filers—

Bonney's, Nos. 2 & 3, $15.00.....40&10%
Stearn's.....33⅓&10@33⅓&10&10%
Stearn's Silent Saw Vises.....33⅓@35%
Hopkins'.....₱ doz $17.50, 10%
Reading.....40&10%
Wentworth.....20&10%

Miscellaneous—

Combination Hand Vises.....₱ gr $42.00
Cowell Hand Vises.....20%
Bauer's Pipe Vises.....10%
Cincinnati.....25&10%
Enterprise Pipe Vises, each.....$3.00
Massey Combination Pipe.....40%

Wads—Price Per M.

U.M.C.&W.R.A.—B. E., 11 up.. 68¢
U.M.C.&W.R.A.—B. E., 9&10.. 82¢
U.M.C.&W.R.A.—B. E., 8..... 96¢
U.M.C.&W.R.A.—B. E., 7.....$1.10
U.M.C.&W.R.A.—P. E., 11 up. 1.15
U.M.C.&W.R.A.—P. E., 9&10.. 1.50
U.M.C.&W.R.A.—P. E., 8..... 1.70
U.M.C.&W.R.A—P. E., 7..... 1.80
Eley's B. E., 11 up.....$1.70@$1.75
Eley's P. E., 11@20..... 3.00@ 3.25

Dis. 20&2%

Wagon Boxes—

See *Boxes, Wagon.*

Washer Cutters—

See *Cutters, Washers.*

Wagon Jacks—

See *Jacks, Wagon.*

Ware, Hollow—

Cast Iron, Hollow—

Stove Hollow-Ware—
Ground.....60&10%
Unground.....60&10&10%
White Enameled Ware—
Maslin Kettles.....75@75&5%
Boilers and Saucepans.....60@60&5%
Tinned Boilers and S'pans.....60@60&5%
Rustless Hollow Ware.....50@50&5%
Gray Enameled Ware—
Stove.....50%
Maslin Kettles.....60&60&10%
Boilers and Saucepans.....40&5%

Enameled—

Agate and Granite Ware, list Jan. 1, 1889.....33⅓&10%
Ironclad Enameled Ware....dis 33⅓&10%

Kettles—

Galvanized Tea-Kettles—

Inch.....	6	7	8	9
Each....	55¢	60¢	65¢	75¢

Standard Fiber—

	Per Plain.	Dozen. Dec'r'd
Wash-Basins, 10¼ in.	$2.00	$2.25
Wash-Basins, 12 in.	2.25	2.75
Keelers, 11¾ in.		4.00
Cuspidors		8.00
Spittoons, "Daisy," 8 in.	4.00	4.50
Peck Measure	4.00	
Half-peck Measure	3.50	

See also Pails.

Indurated Fiber.—

Spittoons No. 2, ₱ doz.....$8.40
Basins, Ringed, ₱ doz., No. 2....3.00
Washtubs, Nested, Nos. 0, 1, 2 and 3 (4 pieces), ₱ nest.....$7.50
Keelers Nested, Nos. 1, 2, 3 and 4 (4 pieces), ₱ nest.....$2.90
Butter Bowls 15, 17 and 19-inch (3 pieces), ₱ nest.....$1.70
Liquid Measures, pt., qt., 2 qt. and funnell (4 pieces), ₱ set.....$1.60

25%

See also Pails.

Silver Plated, Hollow—

4 mo. or 5% cash in 30 days.

Reed & Barton.....
Meriden Britannia Co.....
Simpson, Hall, Miller & Co.....
Rogers & Brother..... } 40&5%

Hartford Silver Plate Co..... } 40&5&5%
William Rogers Mfg. Co. .. }

Washers—

Size hole..... 5-16 ⅜ ½ ⅝ to 1⅜
Washers..... 6 5 3.50¢ 3
In lots less than 200 ℔, ₱ ℔, add ½¢, 5-℔ boxes 1¢ to list.

Wedges—

Iron.....₱ ℔ 3½¢
Steel.....₱ ℔ 3¾¢

Weights, Sash—

Solid Eyes.....₱ ton $18.00@$19.00

Well Buckets, Galvanized—See *Buckets, Well, Galvanized.*

Wheels, Well—

8 in., $2.25; 10 in., $2.70; 12 in., $3.25

Wire and Wire Goods—

Iron—

Market,
Br.& Ann..Nos.0 to 18.75&10@75&10&5%
Cop'd, Nos. 0 to 18..... .....75&5%
Galv., Nos. 0 to 18.....70@70&5%
Tin'd. Tin'd list, Nos. 0 to 18.70@70&10%
Stone,
Br. and Ann'd, Nos. 16 to 18.....80%
Bright and Ann'd, Nos. 19 to 26...80&5%
Br. and Ann'd, Nos. 27 to 36.....82½&5%
Tinned.....
Tinned Broom Wire, 18 to 21, ₱ ℔....48½¢
Galvanized Fence, Nos. 8 and 9....70&10%
Brass, list Jan. 18, 1884.....25@33⅓%
Copper, list Jan. 18, 1884.....33⅓@40%
Annealed Wire on Spools.....60%
Malin's Steel and Tin'd on Spools.....60%
Malin's Brass and Cop. on Spools.....50%
Tate's Spooled, Tin'd & Annealed..60&5%
Tate's Spooled Cop. and Brass.....50%
Cast Steel Wire.....50%
Stubs' Steel Wire.....$6.00 to £, 30%
Steel Music Wire, 12 to 30....60@70¢ ₱ ℔
Wire Clothes Line, see Lines.
Wire Picture Cord, see Cord.

Bright Wire Goods—

Standard list.....80&20@85%

Wire Cloth and Netting—

Painted Screen Cloth, good quality, ₱ 100 sq. ft., $1.40
Galvanized Wire Netting.....70&10@75%

Wire, Barb—

See Trade Report.

Wire Rope—See *Rope, Wire.*

Wrenches—

American Adjustable 40%
Baxter's Adjustable "S".....40&10@50%
Baxter's Diagonal.....60%
Coes' Genuine.....50&3%
Coes' "Mechanics'".....50&10&3%
Girard Standard.....65&10%
Lamson & Sessions' Engineers'....60&10%
Lamson & Sessions' Standard.....70&10%
P. S. & W. Agricultural.....75&10@
Girard Agricultural.....75&10&10%
Lamson & Sessions' Agric'l..
Bemis & Call's:
Pat. Combination.....35%
Merrick's Pattern.....35%
Brigg s Pattern.....25%
Cylinder or Gas Pipe.....40&5%
No. 3 Pipe.....40&10%
Aiken's Pocket (Bright).....$6.00, 50&10%
The Favorite Pocket.....₱ doz., $4.00, 40%
Webster's Pat. Combination.....25%
Boardman's.....30%
Always Ready.....25&5%
Alligator.....50%
Donohue's Engineer.....20&10%
Acme, Bright.....50&2%
Acme, Nickeled.....40&2%
Hercules.....70@70&5%
Walker's.....55&3%
Diamond Steel.....55&3%
Cincinnati Brace Wrenches.....25&10%
Tafts' Vise Wrench.....55&10&3%

Wringers, Clothes—

Am. Wringer Co.'s list,July1,'92..2% cash
Colby WringerCo.,listSept.1, '91..2% cash
Lovell Mfg. Co., list Jan. 1, 1892..2% cash
Peerless Mfg. Co., list Feb., 1892..2% cash

Wrought Goods—

Staples, Hooks, &c., list March 17, 1892 85&25%

Paints, Oils and Colors.—Wholesale Prices.

Animal and Vegetable Oils—

Linseed, City, raw.. per gal. .. @ 41
Linseed, City, boiled..... .. @ 44
Linseed, Western, raw..... .. @ 40
Lard, City, Extra Winter. 63 @ 65
Lard, City, Prime..... 62½@ ..
Lard, City, Extra No. 1..... 50 @ 55
Lard, City, No. 1..... 40 @ 45
Lard, Western, prime..... 62 @ ..
Cotton-seed, Crude, prime.. .. @ 28
Cotton-seed, Crude, off grades..... 26 @ 27
Cotton-seed, Summer Yellow, prime..... 30 @ 31
Cotton-seed, Summer Yellow, off grades..... .. @ ..
Sperm, Crude..... 67 @ 70
Sperm, Natural Spring..... 67 @ 70
Sperm, Bleached Spring.... 72 @ 75
Sperm, Natural Winter..... 73 @ 76
Sperm, Bleached Winter.... 78 @ 81
Whale, Crude..... .. @ 45
Whale, Natural Winter..... 55 @ 56
Whale, Bleached Winter.... 58 @ 59
Whale, Extra Bleached..... 59 @ 60
Sea Elephant, Bleached Winter..... 62 @ 63
Menhaden, Crude, Sound... 30 @ 31
Menhaden, Crude, Southern .. @ ..
Menhaden, Light Pressed... 37 @ ..
Menhaden, Bleached W'ter. 38 @ ..
Menhaden, Extra Bleached. 40 @ 42
Tallow, City, prime..... 44 @ 45
Tallow, Western, prime.... 42½@ 43
Cocoanut, Ceylon..... 5¼@ ..
Cocoanut, Cochin..... 6 @ 6¼
Cod, Domestic..... 38 @ 40
Cod, Foreign..... 42 @ 45
Red Elaine..... 34 @ 36
Red Saponified.....₱ ℔ 4½@ 5
Bank.....per gal 35 @ 36
Straits..... 36 @ 37
Olive, Italian, bbls..... .... 64 @ 65
Neatsfoot, prime..... 50 @ 55
Palm, prime, Lagos.....₱ ℔ 5¾@ 6¼

Mineral Oils—

Black, 29 gravity, 25 @ 30 cold test.....per gal 7 @ 7½
Black, 29 gravity, 15 cold test..... 7½@ 8
Black, 29 gravity, summer.. 6 @ 6½
Cylinder, light, filtered..... 14 @ 16
Cylinder, dark, filtered..... 10 @ 13
Paraffine, 23½@ 24 gravity.. 11½@ 12
Paraffine, 25 gravity..... 10¾@ 11
Paraffine, 28 gravity..... 8 @ 8½
Paraffine, red..... 9 @ 0⅝

Paints and Colors—

Barytes, Foreign, ℔ ton..$22.00 @24.00
Barytes, Amer. floated....20.00 @32.00
Barytes, Amer. No. 1.....15.00 @17.00
Barytes, Amer. No. 2.....13.00 @15.00
Barytes, Amer. No. 3.....11.00 @12.00
Blue, Celestial.....₱ ℔ 6 @ 8
Blue, Chinese..... 40 @ 50
Blue, Prussian..... 25 @ 40
Blue, Ultramarine..... 8 @ 25
Brown, Spanish..... ⅛@ 1
Brown, Vandyke, Amer... 3 @ 3½
Brown, Vandyke, English. 6 @ 8
Carmine, No. 40, in bulk.. 3.10 @ ..
Carmine, No. 40, in boxes or barrels..... 3.20 @ ..
Carmine, No. 40, in ounce bottles..... 4.20 @ ..
Chalk, in bulk.....₱ ton. .... @ 2.00
Chalk, in bbls..₱ 100 ℔... 33 @ 40
China Clay, English..... ₱ ton.13.00 @18.00
Cobalt Oxide, prep'd..... 9.00 @11.00
Cobalt Oxide, black..... lots 100 ℔. 2.50 @ ....
Cobalt Oxide, black..... less 100 ℔. 2.65 @ 2.90
Green, Paris, in bulk..... 13 @ 15½
Green, Paris, 170 @ 175 ℔ kegs..... 14 @ 16
Green, Paris, small pack. 15½@ 22
Green, Chrome, ordinary. 6 @ 12
Green, Chrom.', pure..... 22 @ 25
Lead, Eng., B.B. white.... 8½@ 10
Lead, Amn. White, dry or in oil:
Kegs, lots less than 500 ℔... 7¼ @ 7½
Kegs, lots 500 ℔ to 5 tons... 6¾ @ 7
Kegs, lots 5 tons to 12 tons.. 6⅝ @ 6⅞
Kegs, lots 12 tons and over.. 6½ @ 6¾
Lead, White, in oil, 25 ℔ tin pails, add to keg price..... .. @ ⅛
Lead, White, in oil, 12½ ℔ tin pails, add to keg price..... .. @ 1
Lead, White, in oil, 1 to 5 ℔ assorted tins, add to keg price. .. @ ⅛
Lead, Red, bbls. and ½ bbls... 6¾ @ 7¼
Lead, Red, kegs..... 6¾ .. 7⅛
Litharge, kegs..... 6½@ 7⅛
Litharge, bbls. and ½ bbls.....6¾@ 7¼

TERMS, &c.—Lead and Litharge.—On lots of 500 ℔ or over, 60 days' time or 2½ % discount for cash if paid within 15 days of date of invoice.
Ocher, Rochelle ....1.35 @ 1½
Ocher, French Washed..... 1½@ 2½
Ocher, German Washed.... 1½@ 3
Ocher, American..... ½@ 1½
Orange Mineral, English.... 8½@ 9
Orange Mineral, French..... 10 @ 10½
Orange Mineral, German.... 8½@ 9
Orange Mineral, American.. 8½@ 8¾
Paris White, English Cliff-stone..... 1.00 @1.15
Paris White, American..... 70 @ 75
Red, Indian, English..... 5½@ 7
Red, Indian, American..... 2 @ 6½
Red, Turkey..... 9 @ 14
Red, Tuscan..... 9 @ 11
Red, Venetian, American... ₱ 100 ℔...1.00 @1.10
Red, Venetian, English.....1.20 @1.35
Sienna, Italian, Burnt and Powd. ₱ ℔..... 4 @ 5
Sienna, Ital., Burnt Lumps. 1½@ 3½
Sienna, Ital., Raw, Powd... 4½@ 5½
Sienna, Ital., Raw, Lumps.. 1¾@ 3½
Sienna, American, Raw..... 1½@ 1¾
Sienna, American, Burnt and Powdered.....₱ ℔ 1½@ 1¾
Talc, French..... 1½@ 1¾
Talc, American..... 0½@ 1¼
Terra Alba, Fr'ch. ₱ 100 ℔ 75 @ 80
Terra Alba, English..... 70 @ 75
Terra Alba, American No. 1 70 @ 75
Terra Alba, American No. 2 45 @ 50
Umber, Turkey, Burnt and Powdered.....₱ ℔ 3½@ 4
Umber, Turkey Bnt. Ln..... 2¾@ 3
Umber, Turkey, Raw and Powdered..... 3¼@ ....
Umber, Turkey, R'w Lumps 2½@ 2¾
Umber, Turkey, Bnt. Amer.. 1½@ 1⅝
Umber, Turkey, R'w Amer.. 1½@ 1⅝
Yellow, Chrome..... 10 @ 25
Vermillion, American Lead. 11½@ 12
Vermillion, Quicks'er, bulk.. 57 @ ..
Vermillion, Quicks'er, bags.. 58 @ ..
Vermillion, Quicksilver sm'r pkgs..... 62 @ ..
Vermillion, English Import. 85 @ 90
Vermillion, Imitation, Eng.. 8 @ 35
Vermillion, Trieste..... 90 @ 92½
Vermillion, Chinese..... 92½@ 95
Whiting Common, ₱ 100 ℔ 37½@ 42½
Whiting Gilders'..... 45 @ 55
Zinc, American, dry.....₱ ℔ 4½@ 5
Zinc, French, Red Seal..... 7¾@ ..
Zinc, French, Green Seal..... 9 @ ..
Zinc, French, V. M. X..... .. @ 7
Zinc, Antwerp, Red Seal.... 7½@ ..
Zinc, Antwerp, Green Seal.. 7¾@ ..
Zinc, German, L. Z. O..... 6¾@ 7¼
Zinc, V. M. in Poppy Oil, G. Seal, lots of 1 ton and over..... 10¾@ 11½
lots less than one ton..... 11 @ 11⅝
Zinc, V. M. in Poppy Oil, Red Seal..... .. @ ..
lots of 1 ton and over..... 10 @ 10½
lots of less than 1 ton..... 10¼@ 10¾
DISCOUNTS.—French Zinc.—Discounts to buyers of 10 bbl. lots of one or assorted grades, 1%; 25 bbls., 2%; 50 bbls. 4%. No discount allowed on less than bbl. lots.

Colors in Oil—

Black, Drop, Frankfort..... 25 @ 30
Black, Drop, English..... 12 @ 15
Black, Drop, Domestic..... 7 @ 10
Black, Lampblack, Best .... 20 @ 35
Black, Lampblack, Common 7 @ 18
Black, Ivory..... 8 @ 15
Blue, Chinese..... 35 @ 40
Blue, Prussian..... 20 @ 45
Blue, Ultramarine..... 12 @ 18
Brown, Vandyke..... 7 @ 12
Green, Chrome..... 8 @ 13
Green, Paris..... 16 @ 18½
Sienna, Raw..... 7 @ 14
Sienna, Burnt..... 7 @ 14
Umber, Raw..... 7 @ 10
Umber, Burnt..... 7 @ 10

Putty—

In barrels and ½ bbls..... .01⅜@ .01¾
In tubs..... .01⅝@ .01⅞
In tin cans..... .01¾@ .02¼
In bladders..... .01⅞@ .02¼

Spirits Turpentine—

In regu bbls..... .. @ 29½
In machine bbls..... .. @ 30

Glue—

Low Grade.....₱ ℔ 8 @ 10
Cabinet..... 12 @ 14
Medium White..... 13 @ 15
Extra White..... 17 @ 20
French..... 10 @ 22
English..... 10 @ 15
Irish..... 12 @ ..

CURRENT METAL PRICES.

OCTOBER 5, 1892.

The following quotations are for small lots. Wholesale prices, at which large lots only can be bought, are given elsewhere in our weekly market report.

IRON AND STEEL—

Bar Iron from Store—

Common Iron:
¾ to 2 in. round and square.. } ₩ ℔ 1.90 @ 2.00¢
1 to 6 in. x ⅜ to 1 in..... }
Refined Iron:
¾ to 2 in. round and square. }
1 to 4 in. x ⅜ to 1¼ in..... } ₩ ℔ 2.00 @ 2.10¢
4½ to 6 in. x ⅜ to 1 in. .... }
1 to 6 in. x ¼ and 5-16..... ₩ ℔ 2.20 @ 2.30¢
Rods—⅝ and 11-16 round and sq. ₩ ℔ 2.10 @ 2.20¢
Bands—1 to 6 x 3-16 to No. 12....₩ ℔ 2.30 @ 2.40¢
"Burden Best" Iron, base price.₩ ℔..... ...3.00¢
Burden's "H. B. & S." Iron, base price..... ....₩ ℔.. .....2.80¢
"Ulster"..... ....₩ ℔..... 3.00¢
Norway Bars..... ..... 3.75 @ 4.00¢
Norway Shapes..... ..... 4.50 @ 5.00¢

Merchant Steel from Store—

	Per ℔
Open-Hearth and Bessemer Machinery, Toe Calk, Tire and Sleigh Shoe, base price in small lots	2¾¢
Best Cast Steel, base price in small lots.	8 ¢
Best Cast Steel Machinery, base price in small lots	5 ¢

Sheet Iron from Store—

Black—	Common American.	R. G. Cleaned American.
Nos. 10 to 16.... ...₩ ℔ 3 @	3½¢	
17 to 20.....₩ ℔ 3½ @ ...	3¾¢	
21 to 24.....₩ ℔ 3¾ @	3¾¢	
25 and 26. ...₩ ℔ 3⅞ @ ...	3¾¢	
27.... .....₩ ℔ 3¾ @	3⅞¢	
28.....₩ ℔ 3⅞ @	4 ¢	
American B. B.....₩ ℔ 4¢ @ 4¼¢		

Galvanized Sheet Iron—

	B. B.
Nos. 10 to 16 .....₩ ℔ 4.20¢	
17 to 22.....₩ ℔ 4½¢	
23 to 24.....₩ ℔ 4¾¢	
25 to 26.....₩ ℔ 5 ¢	
27.....₩ ℔ 5¼¢	
28 .. ..₩ ℔ 5½¢	
29 to 30.....₩ ℔ 6½¢	
Genuine Russia, according to assortment.....₩ ℔ 11¼¢ @ 11½¢	
Patent Planished .....₩ ℔ A, 10¢; B, 9¢	
Craig Polished Sheet Steel.....₩ ℔, 8½¢	

English Steel from Store—

	Per ℔
Best Cast.....₩ ℔ 15 ¢	
Extra Cast .....₩ ℔ 16½ @ 17 ¢	
Swaged, Cast.....₩ ℔ 16 ¢	
Best Double Shear .....₩ ℔ 15 ¢	
Blister, 1st quality.....₩ ℔ 12 ¢	
German Steel, Best.....₩ ℔ 10 ¢	
2d quality.....₩ ℔ 9 ¢	
3d quality.....₩ ℔ 8 ¢	
Sheet Cast Steel, 1st quality.....₩ ℔ 15 ¢	
2d quality.. .. ..₩ ℔ 14 ¢	
3d quality.....₩ ℔ 12½¢	
R. Mushet's "Special".....₩ ℔ 48 ¢	
" " " Annealed.....₩ ℔ 75 ¢	
" " "Titanic"..... .....₩ ℔ 20 ¢	

METALS—

Tin—

	Per ℔
Banca, Pigs.....	22 ¢
Straits, Pigs.....	21¼¢
Straits in Bars..... ..	23 ¢

Tin Plates—

Duty: 2.2¢ ₩ ℔.

Charcoal Plates—Bright—

Guaranteed Plates command special prices, according to quality. Per box.

Melyn and Calland Grade. IC, 10 x14..	@	$6.50
" " " IC, 12 x12..	@	6.75
" " " IC, 14 x20..	@	6.50
" " " IC, 20 x28..	@	13.00
" " " IX, 10 x14..	@	8.50
" " " IX, 12 x12..	@	8.75
" " " IX, 14 x20..	@	8.50
" " " IX, 20 x28..	@	17.00
" " " DC, 12½x17..	@	6.00
" " " DX 12½x17..	@	8.00
Allaway Grade..... ...IC, 10 x14..	@	6.00
" " .....IC, 12 x12..	@	6.25
" " .....IC, 14 x20..	@	6.00
" " .....IC, 20 x28..	@	12.00
" " .....IX, 10 x14..	@	7.50
" " .....IX, 12 x12..	@	7.75
" " .....IX, 14 x20..	@	7.50
" " .....IX, 20 x28..	@	15.00
" " .....DC, 12½x17.	@	5.50
" " .....DX, 12½x17..	@	7.00

Coke Plates—Bright—

Steel Coke.—IC, 10 x 14, 14 x 20..	@	$5.60
10 x 20..	@	8.50
20 x 28.. 11.50	@	12.00
IX, 10 x 14, 14 x 20..	@	7.00
BV Grade.—IC, 10 x 14, 14 x 20..	@	5.50

Charcoal Plates—Terne—

Guaranteed Plates command special prices according to quality.

Dean Grade.—IC, 14 x 20..... ..	@	$5.75
20 x 28..... 11.00	@	11.25
IX, 14 x 20.....	@	6.50
20 x 28	@	13.00
Abecarne Grade.—IC, 14 x 20... ...	@	5.65
20 x 28.... 10.75	@	11 00
IX 14 x 20.... ..	@	6 50
20 x 28....	@	13.00

Tin Boiler Plates—

IXX, 14 x 26.....112 sheets.	@	$13.35
IXX, 14 x 28.....112 sheets	@	14.50
IXX, 14 x 31.....112 sheets	@	16.00

Copper—

Duty: Pig, Bar and Ingot, 1½¢; Old Copper, 1¢ ₩ ℔. Manufactured (including all articles of which copper is a component of chief value), 35 % ad valorem.

Ingot—

Lake.	@	12 ¢
Ausonia grade Arizona..... ..	@	11¼¢
Ausonia grade Casting..... ..	@	11 ¢

Sheet and Bolt—

Prices adopted by the Association of Copper Manufacturers of the United States, May 19, 1892. Subject to a discount of 10 % @ 20 %, according to size of order.

Not wider than	Not longer than	And longer than	Weights per sq. foot and prices per pound. Over 64 oz.	32 to 64 oz.	16 to 32 oz.	14 to 16 oz.	12 to 14 oz.	10 to 12 oz.	8 to 10 oz.	Less than 8 oz.
30	72	—	22	22	22	23	24	25	28	30
30	—	72	22	22	22	23	25	27	31	...
36	96	—	22	22	22	24	26	30	33	...
36	—	96	22	22	22	25	27	31	35	...
48	96	—	22	22	24	26	28	32	...	...
48	—	96	22	22	25	27	29	33	...	...
60	96	—	22	22	25	27	29	34	...	...
60	—	96	22	23	26	...	...	...	...	...
84	96	—	23	24	....	...	...	...	...	...
84	—	96	24	25	....	...	...	...	...	...
Ov'r 84 in. wide			25	27	....	...	...	...	...	...

Bolt Copper, ⅜ inch diameter and over, per pound..... 22¢

Circles, Segments and Pattern Sheets, 60 in. diameter and less, 3¢ ₩ ℔ advance over prices of Sheet Copper required to cut them from.

Circles, Segments and Pattern Sheets, over 60 in. diameter, up to 96 in. diameter inclusive, 4¢ ₩ ℔ advance over prices of Sheet Copper required to cut them from.

Circles, Segments and Pattern Sheets, over 96 in. diameter, 5¢ ₩ ℔ advance over prices of Sheet Copper required to cut them from.

Cold or Hard Rolled Copper 14 oz. ₩ square foot and heavier, 1¢ ₩ ℔ over the foregoing prices.

Cold or Hard Rolled Copper lighter than 14 oz. ₩ square foot, 2¢ ₩ ℔ over the foregoing prices.

All Polished Copper over 20 in. wide, 2¢ ₩ ℔ advance over the foregoing prices.

Copper Bottoms, Pits and Flats—

	Per ℔.
14 ounce to square foot and heavier.....	26¢
12 ounce and up to 14 ounce to square foot.	27¢
10 ounce and up to 12 ounce.....	29¢
Lighter than 10 ounce.....	32¢

Circles less than 8 inches diameter, 2¢ ₩ ℔ additional.

Circles over 13 inches diameter are not classed as Copper Bottoms.

10 %@ 20 % discount, according to size of order.

Copper Wash Bowl Bottoms—

Tinned.....₩ ℔ 34¢, 10% @ 20%

Tinning—

Net.

Tinning sheets on one side, 10, 12 and 14 x 48 each..... 8¢

Tinning sheets on one side, 30 x 60 each.....30¢

For tinning boiler sizes, 9 in. (sheets 14 in. x 60 in.), each ..... 15¢

For tinning boiler sizes, 8 in. (sheets 14 in. x 56 in.), each ..... 12¢

For tinning boiler sizes, 7 in. (sheets 14 in. x 52 in.), each..... 12¢

Tinning sheets on one side, other sizes, per square foot..... 2½¢

For tinning both sides double the above prices.

Planished Brass and Copper—

Not larger than 30 x 60.

16 oz. and heavier. ....24¢ ₩ ℔	
14 oz..... 25¢ ₩ ℔	
12 oz. ....27¢ ₩ ℔	

Seamless Brass Tubes—

July 6, 1892. Net.

O. G.	N. G.	⅝	½	⅜	¼	⅛	1	1½
8-14	6-12	32	28	25	24	23	22	19
15	13	33	28	26	25	24	23	20
16	14	34	29	27	26	25	24	20
17	15	35	30	28	25	26	25	21
18	16	37	31	29	27	26	25	22
19	17	38	32	30	29	28	27	24
20	18-19	39	34	32	31	30	29	26
21	20	41	36	34	33	32	31	29
22	21	43	37	36	34	33	32	31
23	22	45	39	37	36	35	34	34
24	23	48	41	39	38	36	35	36
25	24	51	44	41	40	39	38	40

Copper, Bronze and Gilding Tube, 3¢ ₩ ℔ additional

Brazed Brass Tubing. (To No. 20 inclusive.)

Above 5-16 inch to 3 inch, inclusive.....	35¢
Plain, above 3 inch.....	45¢
Plain, 5-16 inch.....	45¢
Plain, ¼ inch.....	60¢
Plain, 3-16 inch	$1.00
Plain, ⅛ inch.....	$1.50
Fancy Tubing, Brass, to No. 20, inclusive.....	43¢ ₩ ℔
Bronze Tubing, 3¢ ₩ ℔ more than Brass.	
Discount from list.....	30 @ ..%

Roll and Sheet Brass—

(Brown & Sharpe Standard Gauge)

Common High Brass: Wider than and including	in. 2 / 10	in. 10 / 12	in. 12 / 14	in. 14 / 16	in. 16 / 18	in. 18 / 20	in. 20 / 22	in. 22 / 24
To No. 20, inclusive...	.21	.22	.23	.25	.27	.29	.31	.33
Nos. 21, 22, 23 and 24.	.22	.23	.24	.26	.28	.30	.32	.34
Nos. 25 and 26.....	.22½	.23½	.24½	.27	.29	.31	.33	.35
Nos. 27 and 28.....	.23	.24	.25	.28	.30	.32	.34	.36
Common High Brass: Wider than and including	in. 2 / 10	in. 10 / 12	in. 12 / 14	in. 14 / 16	in. 16 / 18	in. 18 / 20	in. 20 / 22	in. 22 / 24
To No. 20, inclusive...	.31	.32	.33	.35	.37	.39	.41	.43
Nos. 21, 22, 23 and 24.	.32	.33	.34	.36	.38	.40	.42	.44
Nos. 25 and 26.....	.32½	.33½	.34½	.37	.39	.41	.43	.45
Nos. 27 and 28.....	.33	.34	.35	.38	.40	.42	.44	.46

Common High Brass: Wider than and including	in. 24 / 26	in. 26 / 28	in. 28 / 30	in. 30 / 32	in. 32 / 34	in. 34 / 36	in. 36 / 38	in. 38 / 40
To No. 20, inclusive..	.36	.39	.42	.46	.50	.55	.60	.65
Nos. 21, 22, 23 and 24	.37	.40	.43	.47	.51	.56	.61	.68
Nos. 25 and 26.....	.38	.41	.44	.48	.52	.57	.63	.71
Nos. 27 and 28.....	.39	.42	.45	.49	.53	.58	.65	.75

Discount from List 10 % to 25 %.

Brass and Copper Wire—

List January 17, 1884.

Numbered by Stubs' gauge.	Soft & hard high brass.	Spring high brass.	Low brass.	Copper.
All Nos. to No. 16, inclusive.....	$0.22	$0.24	$0.26	$0.30
No. 17 and No. 18	.23	.25	.27	.31
No. 19 and No. 20.....	.24	.26	.28	.32
No. 21, or 0.032 diameter	.25	.27	.29	.33

Discount 10 % to 25 %.

Fine Numbers.

Numbered by London gauge.	Brass.	Spring high brass.	Low brass.	Copper.
No. 22.....	$0.26	$0.28	$0.30	$0.34
No. 23.....	.28	.30	.32	.36
No. 24.....	.30	.32	.34	.38
No. 25.....	.32	.34	.36	.40
No. 26.....	.35	.37	.39	.43
No. 27.....	.38	.40	.42	.46
No. 28.....	.42	.44	.46	.51
No. 29.....	.45	.47	.49	.54
No. 30.....	.48	.50	.52	.62
No. 31.....	.51	.53	.55	.67
No. 32.....	.55	.57	.59	.73
No. 33.....	.59	.61	.63	.82
No. 34.....	.64	.66	.68	.95
No. 35.....	.70	.72	.74	1.30
No. 36.....	.76	.78	.80	1.50
No. 37.....	1.00	1.02	1.04	1.70
No. 38.....	1.30	1.32	1.34	2.00
No. 39.....	2.00	2.02	2.00	3.25
No. 40.....	2.60	2.62	2.60	5.75

— % discount.
Spring Wire, 2¢ ₩ ℔ advance.

Copper Belt and Hose Rivets and Burrs—

	Per ℔.		Per ℔.
No. 5.....	49¢	No. 11.....	56¢
No. 6.....	49¢	No. 12.....	58¢
No. 7.....	49¢	No. 13.....	60¢
No. 8.....	50¢	No. 14.....	65¢
No. 9.....	52¢	No. 15.....	70¢
No. 10.....	54¢		

60 % @ 5 % discount.

Tobin Bronze—Rods.

Drawn Rods for Bolts, Forgings, &c.

¼ to ⅜ inch inclusive.....	18¢ ₩ ℔
Over ⅜ to 3½ inches inclusive.....	17¢ ₩ ℔
Over 3½ to 5 inches inclusive.....	18¢ ₩ ℔

Piston Rods, Finished True, Smooth and Straight.

¼ to ⅜ inch inclusive.....	19¢ ₩ ℔
Over ⅜ to 2 inches inclusive.....	18¢ ₩ ℔
Over 2 to 3½ inches inclusive.....	19¢ ₩ ℔
Over 3½ to 5 inches inclusive.....	20¢ ₩ ℔

Spelter—

Duty: Pig, Bars and Plates, $1.50 ₩ 100 ℔.

Western Spelter.....	5¼¢
Bertha (pure).....	8¼¢

Zinc—

Duty: Sheet, 2½¢ ₩ ℔.

600 ℔ casks	7 ¢
Per ℔.....	7½¢

Lead—

Duty: Pig, $2 ₩ 100 ℔. Old Lead, 2¢ ₩ ℔. Pipe and Sheets, 2½¢ ₩ ℔.

American Pig.....	4½ ¢
Bar	5¢
Pipe, subject to discount 20%.....	6½¢
Tin-Lined Pipe, subject to discount 20%...	15¢
Block Tin Pipe, subject to discount 20%....	37½¢
Sheet, subject to discount 20%.....	7¢

Old Lead in exchange, 3½¢ ₩ ℔.

Solder—

½ @ ½ (Guaranteed).....	13½¢ @ 15¢
No. 1	11¾¢ @ 12½¢

Prices of the many other qualities of Solder in the market indicated by private brands vary according to composition.

Antimony—

Cookson	₩ ℔ 12½¢
Hallett's.....	" 11 ¢

Aluminum—

Prices per Ton.
Duty: 15¢ ₩ ℔.

Over 98% pure.....	₩ ℔ .75
94% @ 98% pure.....	₩ ℔ .65

Old Metals—

Prices Paid in New York.

Heavy Copper.....	₩ ℔ 10 ¢
Light and Tinned Copper	₩ ℔ 9 ¢
Heavy Brass.....	₩ ℔ 7 ¢
Light Brass.....	₩ ℔ 6 ¢
Lead.....	₩ ℔ 3½¢
Tea Lead.....	₩ ℔ 3½¢
Zinc.....	₩ ℔ 2½¢
No. 1 Pewter.....	₩ ℔ 14 ¢
No. 2 Pewter.....	₩ ℔ 7 ¢
Wrought Scrap Iron.....	₩ gross ton $17.00
Heavy Cast Scrap.....	₩ gross ton 10.00
Stove Plate Scrap.....	₩ gross ton 7.00
Burnt Iron	₩ gross on